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CHANGES IN FEDERAL WATER PROJECT REPAYMENT POLICIES CAN REDUCE --ETC(U)
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BY THE COMPTROLLER GENERAL

Report To The Congress

OF THE UNITED STATES

Changes In Federal Water Project Repayment Policies Can Reduce Federal Costs.

Federal water project repayment policies and practices do not ensure fair and timely cost recovery from project water users when water supply or storage space in Federal reservoirs is not sold or fully utilized. Because about 15 million acre-feet of available water or storage space in Bureau of Reclamation and Corps of Engineers reservoirs has not been sold, the Government has absorbed substantial costs associated with the underutilized reservoirs.

This report is recommending changes in agency policies which should result in greater cost recovery from water users who receive benefits from the projects. Greater cost recovery from project beneficiaries means less Federal funding is required to construct, operate, and maintain Federal water projects.

GAO/CED-81-77
AUGUST 7, 1981

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D.C. 20548

B-198377

To the President of the Senate and the
Speaker of the House of Representatives

This report discusses the repayment policies and practices of the U.S. Army Corps of Engineers and the Department of the Interior's Bureau of Reclamation that do not ensure fair and timely recovery of water projects' reimbursable costs.

We made this review because our prior work disclosed several large Federal reservoirs with substantial amounts of unsold water or storage space. In such cases, we noted that project beneficiaries were either not repaying their fair share of project costs or that repayment was being substantially delayed.

Because of the congressional concern for curtailing Federal expenditures, we believe that this report will be useful to the Congress during its deliberations on Federal appropriations for water development. Implementing the recommendations in this report should result in decreasing the Federal funds needed for financing water projects' annual operation and maintenance costs and accelerating recovery of construction expenditures.

We are sending copies of the report to appropriate House and Senate committees; the Director, Office of Management and Budget; and to the Secretaries of the Army and the Interior. We will also make copies available to interested organizations and to others upon request.

Milton J. Socolar

Acting Comptroller General
of the United States

COMPTROLLER GENERAL'S
REPORT TO THE CONGRESS

CHANGES IN FEDERAL WATER PROJECT REPAYMENT POLICIES CAN REDUCE FEDERAL COSTS

D I G E S T

The Army Corps of Engineers and the Department of the Interior's Bureau of Reclamation are the two principal Federal agencies that build and operate multipurpose water projects. The Congress authorizes the uses of Federal reservoirs and generally requires that Federal expenditures to construct, operate, and maintain facilities for certain project purposes be repaid (for example, facilities for power production, irrigation, and municipal and industrial water supply). The agencies' fiscal year 1981 appropriations for water development included $2.3 billion for construction and $1.1 billion for operation and maintenance costs.

Current repayment policies, for the most part, require that water projects must be fully used to ensure cost recovery. However, much water is neither purchased nor used as originally intended. Much of it is likely to remain underutilized for years or even decades. As a result, the Federal Government will continue to absorb substantial costs.

GAO's review showed that opportunities are available to more fairly and promptly recover project costs from project beneficiaries. Agency officials have made some changes but much more should be done. This report is recommending to the agencies policy changes to achieve greater repayment.

MILLIONS OF ACRE-FEET OF UNDERUTILIZED WATER ARE AVAILABLE IN FEDERAL RESERVOIRS

Agency data shows that for the locations covered by GAO's review, Federal reservoirs have more than 15 million acre-feet 1/ of water

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1/An acre-foot of water (325,851 gallons) represents the amount of water sufficient to meet all the needs of a family of four for 1 year.

or reservoir storage space available for use. Most of it has been available for years, some for decades. For example, the Willamette River Basin Project in Oregon has about 1.6 million acre-feet of reservoir storage space allocated to irrigation. Reclamation, which markets the water, has only sold about 40,000 acre-feet. Also, Reclamation has about 5 million acre-feet of storage space allocated to irrigation in six Missouri River reservoirs. However, the agency estimates that irrigators will use about half of the allocation in the next 35 years. In addition, another 3 million acre-feet is available in excess of foreseeable needs through the year 2060. (See p. 7.)

FEDERAL AGENCIES DO LITTLE TO MARKET FEDERAL PROJECT WATER

Agency officials said that they had no water marketing policies and generally relied on State water boards, local chambers of commerce, and water districts to carry out water marketing activities. (See p. 16.)

Although the available water may not be currently needed, some of it could be marketed. Many companies spend substantial sums to ensure a future water supply from Federal reservoirs--they purchase a kind of water insurance policy. For example, companies spent $2.7 million for option contracts on the Yellowtail Reservoir--only to let them expire without requesting water delivery. (See p. 17.)

AGENCIES DID NOT TAKE ADVANTAGE OF OPPORTUNITIES TO INCREASE COST RECOVERY

The agencies sometimes use outdated prices for determining operation and maintenance charges. On the Corps' Willamette River Basin Project, 1965 cost information was used for determining 1980 water prices. (See p. 26.)

In some cases, repayment was not required even though water users received benefits. For example, irrigators using the Corps' Lucky Peak Reservoir (Idaho) and industrial water users on Reclamation's Glendo Reservoir (Wyoming) did not pay any operation and maintenance costs. (See p. 25.) In other cases, although required, interest was not charged to industrial water users. (See p. 32.)

Sometimes, payments received from water option contractors were not apportioned to operation and maintenance costs. For example, Reclamation applied $2.7 million in revenues from industrial options sales on Yellowtail Reservoir (Wyoming and Montana) to repay construction costs. (See p. 27.) Sometimes, Reclamation charged water users for operation and maintenance costs but credited the revenues to construction cost repayment. As a result of such practices, reimbursable operation and maintenance costs had to be paid from Federal funds. (See p. 25.)

UNPAID COSTS NOT CONSIDERED IN FUTURE PRICE DETERMINATIONS

Although project purposes may not develop as anticipated, operation and maintenance expenditures are essential to ensure a project's continued operation. However, instead of accumulating such costs for reimbursable project purposes and considering them in future water price determinations, agencies often reassigned them to nonreimbursable categories. Under such circumstances, the Corps and Reclamation did not require project users to repay the costs to maintain a project's capability of delivering a future water supply. For example, between 1975 and 1979, the Corps' Tulsa district office reassigned $1.8 million of reimbursable operation and maintenance costs to nonreimbursable costs. (See p. 30.)

Often, costs were reassigned to nonreimbursable purposes although reimbursable project purposes benefited from the underutilized water supply. For example, Reclamation reassigned multipurpose operation and maintenance costs associated with unused irrigation and municipal and industrial water on the Yellowtail Reservoir to nonreimsable purposes. None of the costs were reassigned to hydroelectric power, a reimbursable project purpose, even though additional water was available for power production. If power had been allocated a proportionate share of the costs, the Government would have saved about $57,000 in 1979. (See p. 20.)

RECOMMENDATIONS

Changes in agency policies are long overdue. The Secretary of the Army and the Secretary of the Interior should

--develop overall water marketing strategies for their agencies,

--require that all reservoir uses share equitably in cost recovery,

--require that all operation and maintenance charges be annually updated and applied to new or amended contracts,

--include interest expense in all municipal and industrial water sales prices, and

--accumulate all unrecovered reimbursable operations and maintenance costs and consider such costs in future price determinations.

See pages 18, 29, 36, 42, and 46 for other recommendations.

AGENCY COMMENTS

Interior agreed that the allocations of operation and maintenance costs and the reassignment of reimbursable costs needed review and standardization. It also agreed to devote more attention to updating water rates and to evaluate inconsistencies in its pricing procedures. During GAO's field work, Reclamation corrected several deficiencies (see app. I).

The Department of the Army said that it was reviewing the entire cost recovery system and that it would consider GAO's recommendations in its review. The Army said also that because it did not participate in GAO's discussion with the Corps on the matters in this report, the Corps' views did not necessarily reflect changes which might be made as a result of the Army's review of the cost recovery system. (See app. II.)

Contents

ABBREVIATIONS

GAO	General Accounting Office
M&I	municipal and industrial
O&M	operations and maintenance

GLOSSARY

Ability to pay principle	The pricing of goods or services on the basis of family income or some other measure of financial capability rather than on the basis of benefits received.
Acre-foot	The quantity of water required to cover 1 acre to a depth of 1 foot; equal to 43,600 cubic feet or 325,851 gallons.
Allocation of cost	Distributing the cost of project facilities to the various purposes served, such as irrigation, power, municipal water supply, and others.
Construction cost	All costs, including labor, construction equipment, materials, supplies, installed equipment, land and land rights, investigations, engineering, and related services that contribute to the original value of the physical works constructed.
Consumptive use	Water withdrawn from a supply that, because of absorption, transpiration, evaporation, or incorporation in a manufactured product, is not returned directly to a surface or ground water supply; that is, water which is lost for immediate further use. Also called consumption.
Current use allocation	Allocating costs among purposes that actually benefit from a project.
Features	The major facilities of a project, such as dams, canals, powerplants, pumping plants, drains, and laterals.
Flood control storage	Empty storage space reserved for catchment of flood flows.
Joint use costs	The costs for parts of a water project that cannot be isolated as to a single purpose. For example, the cost of a dam structure that simultaneously serves two or more purposes such as power production, flood control, and navigation.

Nonreimbursable cost	Water project costs that will not be repaid from project revenues but which will be borne instead by the construction or operating entity and funded by the Government.
Option contract	A right to buy water for a given period of time at a predetermined price.
Peak pricing	The technique of pricing goods or services higher at times of peak demand and lower at times of reduced demand to discourage consumption "on peak" and encourage consumption "off peak," thus making more efficient use of plant capacities.
Power revenues	The money received from sales of electric capacity and energy, electric property rentals, and any other related income.
Project purposes	The use of projects such as irrigation, recreation, power, municipal and industrial water supply, etc.
Real repayment	Money repayment measured in constant dollars or constant purchasing power.
Reclamation fund	A special fund established by the Congress under the Reclamation Act of June 17, 1902, for receipts from the sale of public lands and timber, proceeds from the Mineral Leasing Act, and certain other revenues. The Congress makes appropriations from the fund for Reclamation projects. Collections from water users for reimbursable costs generally are returned to this fund.
Reimbursable costs	The costs of a water project that are expected to be recovered, in whole or in part, usually from direct beneficiaries, and repaid into the Treasury.
Separable costs	The costs of a water project which can be isolated and exclusively allocated to a single purpose. For example, the costs of turbine generators at a hydroelectric plant.
Specific costs	The cost of individual physical features and other costs that serve only a single purpose.

Underutilized water or storage space	Water or storage space designed to be used by reimbursable purposes, but which is not actually used for those purposes.
User charge	A charge made to beneficiaries of a water project that is designed to recover part or all of the project cost.
Water right	A form of real property, protected by State and Federal laws. The rights may originate in the ownership of riparian lands or be acquired by appropriation.
Withdrawal	The diversion and removal of water from a natural water course. Also called diversion.

CHAPTER 1

INTRODUCTION

This report examines U.S. Army Corps of Engineers and Department of the Interior's Bureau of Reclamation policies and practices for recovering the reimbursable costs of irrigation and municipal and industrial water supply at Federal reservoirs with underutilized water supplies. 1/

The Corps and Reclamation are the principal Federal agencies that build and operate multipurpose water projects. The Corps plans, designs, constructs, operates, and maintains water projects associated with rivers, harbors, and waterways. Reclamation plans, designs, constructs, operates, and maintains projects for storing, diverting, or developing water resources to reclaim land in the arid or semiarid areas of the West. Both agencies build and operate multipurpose reservoirs that provide municipal and industrial (M&I) water supplies, hydroelectric power generation, irrigation, fish and wildlife enhancement, flood control, outdoor recreation, and river regulation and control.

Usually, Reclamation sells water from a reservoir, while the Corps markets storage space in its reservoirs. Reclamation, for example, might sell to a water user 10,000 acre-feet of water from one of its reservoirs. The Corps, on the other hand, would reserve 10,000 acre-feet of storage space in one of its reservoirs for the water user. If any water were available in the storage space, the Corps could release the reservoir water to the buyer.

Constructing and operating Federal water projects is costly. The fiscal year 1981 appropriations for the Corps and the Bureau of Reclamation includes $2.3 billion for project construction and $1.1 billion for project operation and maintenance (O&M). According to the Budget of the United States Government, even the amount appropriated for O&M expenses is insufficient to finance lower priority work, and some work must be deferred.

REPAYMENT BY SOME PROJECT USERS IS REQUIRED

Although project repayment requirements have changed over time, Federal laws generally require that certain Federal costs to build and maintain water projects must be repaid. Precisely

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1/For purposes of this report, reservoir storage space or water supplies are defined as underutilized if a reimbursable project purpose does not use all the water or reservoir storage space that is allocated for its use.

what the repayment requirements might mean or involve, however, is enmeshed in a myriad of laws, legal opinions, policies, and practices. Generally, Federal expenditures for project purposes such as power production, irrigation, or M&I water supplies are reimbursable and must be repaid. On the other hand, most Federal expenditures for project purposes such as flood control, fish and wildlife, and navigation are generally nonreimbursable. The nonreimbursable and partially reimbursable purposes must be supported by Federal appropriations.

Several factors may cause individual water contract repayment requirements to vary: changes in laws or policies over time, differences in individual project authorizations, changes in administrative or legal interpretations, and differences in water use. Nevertheless, general repayment requirements are usually based on the following two Federal laws:

--The Reclamation Project Act of 1939 (53 Stat 1187). This act (1) requires repayment of all construction costs actually allocated to irrigation, (2) limits repayment contracts to 40 years, (3) authorizes interest charges in contracts for municipal or miscellaneous purposes, and (4) requires reimbursement of an appropriate share of O&M costs and an appropriate share of construction costs from municipal and miscellaneous project users.

--The Water Supply Act of 1958, as amended (72 Stat. 319). This act (1) permits the allocation of 30 percent of construction costs to future development of M&I water, (2) requires repayment within 50 years after the water is first used or within the life of the project, (3) requires repayment of all construction costs including interest during construction, and (4) waives interest charges on construction costs for up to 10 years.

Two types of costs must be repaid: project construction costs and annual O&M costs. Each project user must return its share of reimbursable construction costs within a specified number of years. Allocated O&M costs must be repaid annually, with the charge based on the amount of actual costs.

For costs that are allocated to reimbursable purposes, Federal laws generally require repayment from the users (beneficiaries) of Federal project water or storage space. For example, sales of electricity provide power revenues for project repayment; sales of water to domestic, commercial, or industrial users provide M&I revenues; sales of water to irrigators, priced on the basis of their ability to pay, provide irrigation revenues. Federal costs exceeding the irrigators' ability to pay are reimbursed by power and miscellaneous revenues, including some M&I revenues.

Several general principles about repayment commonly apply to water resources projects:

--First, repayment responsibilities are defined in terms of the original cost. For example, if Reclamation completed a project in 1950, the original construction cost is likely to remain the repayment obligation until repaid.

--Second, repayment obligations for construction costs are interpreted differently than those for O&M costs. While reimbursable construction costs are a permanent liability, O&M costs are not. If O&M costs are not reimbursed in the year they are incurred, they are generally not repaid.

--Third, there may be no obligation to repay project costs until water is delivered to a user. If water or storage space in a reservoir is reserved by firms or individuals that do not request water deliveries, the Federal Government will usually absorb the operating costs associated with the reserved supply.

COST ALLOCATION DETERMINES REPAYMENT OBLIGATIONS

The Corps and Reclamation allocate reservoir construction and O&M costs among project purposes so that project beneficiaries equitably share in reservoir cost recovery. The Congress did not establish a preferred or uniform cost allocation system, nor did it assign one agency the responsibility for developing an allocation method. Except for projects with specific legislative requirements, the construction agency selects the cost allocation method. Because most reservoirs are constructed for more than one purpose, the construction costs are allocated to each reservoir purpose to determine its reimbursable costs.

Individual project authorizations by the Congress usually include identifying the project uses that the Congress intends for each project. For example, Public Law 87-483 (76 Stat 96) authorized the initial stage of the San Juan-Chama project for irrigation, M&I uses, recreation, fish and wildlife purposes, and controlling silt.

After allocating costs to each project purpose, the agencies assign the payment obligations to specific users based upon the amount of water the users buy. The more water that a user might buy, the larger the repayment obligation. The common basis for assigning repayment obligations is the amount of acre-feet of storage space or water supplies that are to be used.

MANY PROJECT PURPOSES CAN USE THE SAME WATER

Except for power, reimbursable project users consume water. Nonreimbursable beneficiaries (for example, fish and wildlife) generally do not consume water. Consequently, both reimbursable and nonreimbursable purposes can benefit from the same water. Because several purposes can use the same water supply, reservoir storage space or water supplies are not fully utilized until all uses develop as planned.

Nonreimbursable project purposes might benefit from underutilized water. For example, fish and wildlife might have more available reservoir water if a reimbursable purpose, such as irrigation, does not require water releases. However, the water is still underutilized because it is not fully used as the Congress intended in the individual project authorization.

SIGNIFICANT LATITUDE IN WHO PAYS HOW MUCH FOR HOW LONG

Although the Congress established which project purposes are reimbursable and which are not, administrative decisions determine more specifically which users or others repay the costs. In fact, interpretations of the broad congressional intent are probably more important in determining individual repayment obligations. The Reclamation Project Act of 1939 mandated that individual repayment contracts must have water rates sufficient to recover the water users' share of costs in 40 years.

Although the Congress declared which project uses were reimbursable (irrigation, M&I, and power) and which were nonreimbursable (flood control and fish and wildlife), the agencies, through administrative decisions, divide the costs among the purposes and users. Also, the 1939 act does not set a minimum or a maximum period for repaying the entire cost of the project.

OBJECTIVES, SCOPE, AND METHODOLOGY

The objective of our review was to determine whether the Corps and Reclamation have repayment policies and practices that ensure prompt and fair cost recovery for Federal reservoirs with underutilized water supplies. To evaluate those policies and practices, we sought answers to the following questions:

--Will policies designed to recover costs when all project purposes are developed ensure cost recovery when the purposes are not developed?

--What repayment policies or practices were changed to ensure cost recovery on projects whose reimbursable purposes only partially developed or did not develop at all?

--Are changes in agency policies and procedures necessary to achieve equitable cost recovery?

--Have economic conditions that existed when the policies were established so changed that the policies are now outdated?

To meet our objectives, we analyzed water marketing and repayment policies and practices for Federal reservoirs with underutilized water supplies in the locations covered by our review.

--First, we identified how much water in Federal reservoirs was underutilized. Using agency data, we compared available water or storage space with water sales contracts. If all water was sold, no additional analysis was performed.

--Second, we evaluated water marketing and repayment policies and practices on those reservoirs with underutilized water. We reviewed all water sales contracts; we evaluated the contracting and water pricing practices for each contract in terms of the laws, agency policies, and local practice; and we reviewed supporting documents and discussed such matters with local agency officials and water users.

--Third, we evaluated agencies' accounting policies and practices to ensure that revenues from water sales contracts were appropriately accounted for. We compared contract provisions with revenues collected, and we discussed our findings with agency contracting and accounting personnel.

--Fourth, we determined what policies and practices could be changed to more quickly recover project costs and still be consistent with Federal laws. We compared practices and policies between agencies; we discussed possible changes with agency officials; we compared economic conditions when the policies were established with those that existed when contracts were issued; we compared cost recovery rates among projects; and we examined what impact changes might have on water users.

We analyzed agency policies and practices at Corps offices in Tulsa, Oklahoma, and Portland, Oregon, and at Reclamation offices in Amarillo, Texas; Billings, Montana; Boise, Idaho; Denver, Colorado; and Salt Lake City, Utah. We selected these offices because our prior work found that they managed reservoirs with underutilized water. Because we did not cover all agency locations, the findings in this report may not be indicative of conditions in other agency offices not covered by our review. Also, we did not examine agency policies and practices for

planning water resources projects. Our primary concern was to evaluate whether Federal expenditures to build and operate underutilized projects were being fairly and promptly recovered.

CHAPTER 2

MILLIONS OF ACRE-FEET OF UNDERUTILIZED WATER IN FEDERAL RESERVOIRS MAKE COST REIMBURSEMENT DIFFICULT

Federal agencies have more than 15 million acre-feet of water or storage space available for use in Federal reservoirs. 1/ Why? Few companies or individuals have requested contracts for the water and even fewer have requested water deliveries. Will much of the water be sold? Maybe, but probably not for decades.

Since the Corps and Reclamation often do not require project costs to be reimbursed until water is actually delivered to users, underutilized water substantially delays project repayment. Such delays are very costly. They lengthen the project repayment period and, therefore, decrease the real value of repayment as well as extend the period for which the Federal Government must absorb O&M costs.

Some water or storage space in underutilized Federal reservoirs will be sold; some will be sold at several times the original cost on a per acre-foot basis. More water might be sold if it were actively marketed. Federal agencies, however, do not actively market water; they wait for potential buyers to contact them. In contrast, when State governments have repayment obligations for Federal project water, they actively solicit buyers. Unless the Federal agencies do more to actively market water, more and more Federal funds will be required to operate and maintain projects as costs rise with inflation and as more underutilized reservoir space is added by new project construction.

RECLAMATION HAS MILLIONS OF ACRE-FEET OF UNDERUTILIZED WATER AVAILABLE FOR SALE

Bécause of insufficient demand for water, Reclamation has about 12 million acre-feet of underutilized water available in Federal reservoirs for which it has water marketing responsibilities. Much of this water has been available for decades and much of it may not be sold for many more decades. For example, the six mainstem Federal reservoirs on the Missouri River (Fort Peck, Sakakawea, Oahe, Sharpe, Francis Case, and Lewis and Clark) have more than 8 million acre-feet of water available annually in excess of required uses. All projected water development to

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1/Fifteen million acre-feet is not the total water or storage space available for use in Federal reservoirs. It represents the water supply identified by the agencies as available for sale in those locations that we visited.

the year 2060 would deplete about 5 million of the 8 million acre-feet annually available. Reclamation data shows that the remaining 3 million acre-feet is totally uncommitted and in excess of all forseeable needs at least through the year 2060.

Reclamation estimated that only about half of the water in the six reservoirs allocated for projected irrigation development (5 million acre-feet) will be used by irrigators in the next 35 years. Because water would not be required by irrigators for decades, the Departments of the Army and the Interior concluded that 1 million acre-feet could be made available annually for interim M&I use at the Fort Peck, Sakakawea, and Oahe reservoirs. Currently, only 36,000 acre-feet of the 1 million acre-feet is under contract for industrial use. Although more of this water will likely be sold for industrial use in energy developments, Reclamation officials said that recent forecasts indicate that even under a high rate of energy development, only 350,000 to 500,000 acre-feet of water would be required annually for such development in the entire Upper Missouri Basin by the year 2000.

The Colorado River Storage Project has four storage units (six reservoirs) with 1.9 million acre-feet of storage space allocated for irrigation and M&I uses. Only a little more than 100,000 acre-feet was used in 1979. Even the 1.9 million acre-feet of allocated storage, however, may understate the amount of stored reservoir water or storage space that is available for many decades. According to Interior's comments (see app. I) there is currently 10 million acre-feet of stored water, as well as available storage space, whose use is not now programed or contemplated. Although this water or storage space may not be available on a permanent basis, much of it will be available for the next 50 or 60 years.

The following table identifies operational reservoirs with water or storage space available for sale from Reclamation. We only included reservoirs that the agency indicated had water available for sale.

Reservoirs With Water Available for Sale From Reclamation

Region	Reservoir	State	Water under contract (note a)	Unsold water available for use	Year reservoir completed
			——(acre-feet)——		
Upper Colorado	Lake Powell	Utah/ Arizona	42,750	993,250	1964
	Navajo	New Mexico/ Colorado	66,316	433,684	1963
	Flaming Gorge	Wyoming/ Utah	-	308,000	1964
	Blue Mesa	Colorado	-	56,000	1966
Total			109,066	b/1,790,934	
Pacific Northwest	Cascade	Idaho	271,691	381,509	1948
	Deadwood	Idaho	55,519	104,881	1931
	Prineville	Oregon	70,300	82,700	1961
	Palisades	Idaho/ Wyoming	1,147,520	52,480	1957
	McKay	Oregon	50,540	17,260	1927
Total			1,595,570	638,830	
Upper Missouri	Yellowtail	Wyoming/ Montana	-	697,000	1966
	Tiber	Montana	26,000	350,000	1956
	Canyon Ferry	Montana	87,000	300,000	1954
	Boysen	Wyoming	53,400	85,000	1952
	Shadehill	South Dakota	10,200	13,800	1951

a/Water under contract may not actually be used.

b/In addition, Interior's comments state that there is currently 10 million acre-feet "of stored water, as well as storage capacity, that could be temporarily used for purposes not now programmed or contemplated." (See app. I.)

Region	Reservoir	State	Water under contract (note a)	Unsold water available for use	Year reservoir completed
			——(acre-feet)——		
Upper Missouri	Tschida	North Dakota	17,000	10,000	1949
	Fort Peck	Montana	-	At least 300,000	1940
	Sakakawea	North Dakota	36,000	At least 300,000	1956
	Oahe	South Dakota	-	At least 400,000	1960
	Six mainstem Missouri Reservoirs	Montana/ North Dakota/ South Dakota	-	b/4,000,000	Various
	Six mainstem Missouri Reservoirs	Montana/ North Dakota/ South Dakota	-	c/3,000,000	Various
Total			229,600	9,455,800	
Lower Missouri	Ruedi	Colorado	-	49,500	1968
	Waconda	Kansas	2,009	45,491	1969
	Bonny	Colorado	500	38,710	1951
	Green Mountain	Colorado	-	20,000	1943
	Glendo	Wyoming	21,400	18,600	1958
Total			23,909	172,301	
South-western	Heron	New Mexico	78,350	18,450	1971
Total			2,036,495	12,076,315	

a/Water under contract may not actually be used.

b/In addition to the 1 million acre-feet at the Fort Peck, Sakakawea, and Oahe mainstem Missouri reservoirs, as shown above.

c/Uncommitted acre-feet in excess of foreseeable needs.

THREE MILLION ACRE-FEET OF STORAGE SPACE IS AVAILABLE IN CORPS RESERVOIRS

Almost 2.6 million acre-feet of unsold reservoir storage space is available in reservoirs in the two Corps divisions we visited. An additional 300,000 acre-feet are reserved for future use at an unknown time. Although Federal law allows the Corps to construct reservoirs without firm commitments to buy all available reservoir storage space, weak demand for the water allows it to remain underutilized. For example, the Corps' Tulsa district (part of the southwestern division) has at least 1.7 million acre-feet of storage space allocated for M&I use in its operational reservoirs. At the time of our review, only 32 percent of the 1.7 million acre-feet of storage space was under contract. Many of the the reservoirs have had water available for years, several for more than a decade. Also, the Corps district is building six additional reservoirs with 579,500 acre-feet allocated to M&I use. When the reservoirs are completed, the district's total M&I storage will be about 2,300,000 acre-feet. Five more reservoirs are authorized for future construction.

Almost 2 million acre-feet, or about 90 percent, of available reservoir storage space in the Corps North Pacific division is unsold. The majority of the space is allocated to irrigation.

The following chart lists operational reservoirs that the Corps has identified as having storage space available for sale. The Corps has contracts for present use for about 400,000 acre-feet of the space; almost 3 million acre-feet is still available for future use.

Corps Reservoirs With Space Available

For Sale in Acre-Feet

Division: Southwestern		Amount under contract (note a)			Year
Reservoir	State	Reserved for present uses	Reserved for future use	Amount for sale	reservoir completed
Oologah	Oklahoma	6,200	38,000	b/298,400	1972
Kaw	Oklahoma	9,150	81,650	80,400	1976
Broken Bow	Oklahoma	0	0	152,500	1968
Millwood	Arkansas	28,300	121,700	0	1966
Waurika	Oklahoma	41,800	0	112,200	1977
Optimi	Oklahoma	0	0	76,200	1978
Eufaula	Oklahoma	2,691	1,480	51,892	1964
Hugo	Oklahoma	8,230	36,660	2,710	1974
Gillham	Arkansas	0	20,600	0	1975
Pine Creek	Oklahoma	17,640	11,160	20,600	1969
DeQueen	Arkansas	0	0	17,900	1977
Canton	Oklahoma	c/ 90,000	0	0	1948
Total		d/204,011	311,250	812,802	
Division: North Pacific					
Lost Creek	Oregon	0	0	35,000	1976
Willamette (note e)	Oregon	39,866	0	1,522,934	e/varied
Wynoochee	Washington	26,400	18,200	0	1972
Lucky Peak	Idaho	111,950	0	116,250	
Ririe	Idaho	0	0	80,500	1976
Total		178,216	18,200	1,754,684	
Total		382,227	f/329,450	g/2,567,486	

a/Storage space under contract may not be actually used to deliver water.

b/Contracts delayed pending legal decision.

c/52,000 acre-feet of this storage space is assigned to irrigation but is under temporary M&I contract.

d/Storage space under contract with payments initiated.

e/This project has 11 reservoirs in Oregon. The first reservoir was completed in 1941 and the last two in 1967. The water is allocation to irrigation.

f/Storage space under contract, but payments will not be required until storage space is used to deliver water.

g/Most of the water is allocated to irrigation and is marketed by Reclamation.

HOW MUCH WATER IS 15 MILLION ACRE-FEET?

What can be done with 15 million acre-feet of water or reservoir storage space? A great deal. In addition to providing recreation benefits and fish and wildlife habitat, 15 million acre-feet of water is enough to supply all the consumable water needs of millions of people or millions of acres of irrigated farm land. For example, Reclamation reported that in 1978 it supplied 24.4 million acre-feet of water for irrigation and 1.6 million acre-feet for M&I use. It reported that the water irrigated 9,576,000 acres of land to meet the annual food requirements of 34.1 million people and supplied 45 percent of the M&I needs of 16.6 million people.

WHY SO MUCH UNDERUTILIZED WATER AND STORAGE SPACE IS AVAILABLE FOR SALE

Agency officials explained that inadequate demand for water was the major reason for so much underutilized Federal reservoir storage space. They suggested that the following reasons caused the insufficient demand for their water:

--Potential water uses did not develop.

--Irrigation facilities were not constructed.

--Some potential users were denied water sales contracts.

--Energy growth projections never materialized.

--Some reservoirs did not hold water.

--The Water Supply Act of 1958 encouraged reservoir construction with underutilized reservoir storage.

One important reason for large amounts of underutilized Federal reservoir storage is the Water Supply Act of 1958 which permits 30 percent of the total estimated cost of a project to be allocated for indefinite future M&I use and does not require repayment contracts for such future uses before construction. Since the 30 percent provision is related to the total cost of the project (not just the M&I share), all of the M&I storage space in a reservoir can be allocated to indefinite future use and no one is committed for repaying the costs. Because most of the M&I space in Corps reservoirs was built for future use, most repayment is delayed until use is initiated.

Also, many Reclamation reservoirs have no long-term contracts for water delivery. For example, Yellowtail Reservoir has 697,000 acre-feet of water allocated for M&I use. The reservoir became operational in 1966, but officials have never received a request for water delivery. Although industrial option contacts for Yellowtail water were once numerous, none resulted in any

water deliveries. Option contracts would probably be numerous again, if certain constraints on marketing water were mitigated. 1/

Although agencies allocated water to irrigation on many multipurpose reservoirs, irrigation use did not develop as planned. For example, Bonny Reservoir has 38,500 acre-feet of storage space allocated for irrigation. Although the reservoir was completed in 1951, authorized irrigation use has not developed. In 1977 a Reclamation study determined that irrigation on the lands studied was not cost effective and recommended that Federal participation be terminated. Meanwhile, the reservoir still has underutilized water and the State of Colorado is negotiating with Reclamation for a sales contract to sell the reservoir to the State. (See app. I.)

Sometimes when a potential buyer requests water from a Federal reservoir with underutilized water, it may not obtain the water. For example, the Atlantic Richfield Company tried to obtain water from a Federal reservoir for its oil shale project for 7 years. The company first sought water from the Federal Government's Green Mountain Reservoir in 1973 but was told that water could not be sold until the Government completed a final environmental impact statement. But 4 years later, Reclamation advised Atlantic Richfield that Ruedi Reservoir, another Federal reservoir, was a preferable supply source. Ruedi Reservoir has had water available since 1968 but has no long-term contracts for water delivery to consumers.

Local Reclamation officials did not negotiate with Atlantic Richfield but directed the company to the Colorado River Water Conservation District, which has most of the Ruedi's water storage rights. A company official said that his company would pay $20-$40 per acre-foot for an ensured water supply; however, the conservation district wanted to charge $80 per acre-foot and would not assure a long-term water supply. The Atlantic Richfield official said that his company could not tolerate either condition.

In January 1980 Atlantic Richfield requested 1,200 acre-feet of water for its Battlement Mesa Project, a new town for oil shale workers. Again, Atlantic Richfield and Reclamation officials could not agree on a contract for water from Reudi.

1/A detailed explanation of water marketing constraints on Yellowtail is found in our report entitled "Water Supply Should Not Be an Obstacle to Meeting Energy Development Goals" (CED-80-30, Jan. 24, 1980, p. 34). Some important constraints were imposed upon Reclamation by the State of Montana and a Federal court decision.

On June 25, 1980, Atlantic Richfield again offered to buy water from Ruedi Reservoir from any individual or agency authorized to sell its water. It offered to pay $10 an acre-foot, per year, for 6,000 acre-feet of water as a standby charge whether or not water was delivered. For water that was delivered, it offered to pay up to $45 per acre-foot. This offer is substantially higher than the $15-$25 price Atlantic Richfield said that Reclamation had earlier mentioned as a possible price for the water.

In January 1981 a Reclamation regional official said that the agency was beginning negotiations with Exxon, Atlantic Richfield's successor in the negotiations, to sell the water from Ruedi Reservoir. The official said that it had not yet decided on the sale price. 1/

UNDERUTILIZED WATER IS VERY EXPENSIVE

The Federal Government incurs substantial costs because Federal agencies do not annually recover an appropriate share of the costs associated with reservoir construction and operation and maintenance. If no one buys Federal water, who will return construction costs to the Treasury? Even if the Government is reimbursed for the original cost, what is its real value if repayment is substantially delayed.

Federal law has been interpreted to mean that repayment is permitted at any time during the life of a project. For example, a legal opinion on the 1939 Reclamation Act held that:

> "* * * the repayment period accordingly may be such as the Secretary of the Interior in his discretion shall decide to be proper for repayment within the useful life of each project." (Solicitor Harper Opinion, Sept. 10, 1945.)

Since useful life might be 100 or more years, cost recovery can be significantly delayed.

Importantly, since agencies often do not require repayment for water until the water is first used, no assurance exists that the Federal Government will ever recover its investment. The potential buyer may begin paying for the water whenever it begins using it, even 100 years after reservoir completion. It is possible that the original cost might not be recovered within the project's useful life, which could be well over 100 years. In addition, in accordance with Federal law,

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1/Interior's April 10, 1981, comments state that active negotiations are underway and a top price of $155 per acre-foot per year has been suggested by Reclamation.

no interest (for up to 10 years) is accumulated on construction costs allocated to future water supply until the water is used, and the agencies do not charge for annual O&M costs until construction repayment begins.

Even when the agencies have contracts for M&I water, repayment is not guaranteed on the water storage designated for future use because contractors do not begin repaying the Government until delivery of the water. There is no fixed date when payment must begin. If payment does not begin much before the end of the reservoir's useful life, Federal costs may not be recovered.

Even if the entire cost of a reservoir is repayed, such repayment may not be very meaningful. Since repayment is based upon the original project cost, inflation can seriously decrease the real value of future repayment. For example, assume that in 1980 Reclamation completes construction of a $10 million water project. If the $10-million obligation is repaid in 40 equal annual installments without interest, the present value of the repayment would be $3.3 million (at a 7-percent annual rate of inflation). However, if the agency waits 40 years to collect the entire $10 million, the return to the U.S. Treasury would be the equivalent of $668,000 (at a 7-percent annual inflation rate). In other words, the $10-million payment in the year 2020 will purchase about $668,000 of goods and services--a purchasing power loss to the Federal Government of $9,332,000, or 93 percent.

Because projects have operated for decades with minimal repayment, the above case is possible. For example, although the Bonny Reservoir was completed in 1951, as of September 30, 1978, after 27 years of operation, Reclamation has recovered only 4 percent of the reimbursable cost. Also, if the current recovery rates for the Corps' Willamette River Basin Project irrigation costs continue and no other water users repay the costs, it will require over 1,500 years to recover allocated irrigation costs. In the meantime, the Federal Government absorbs 97 percent of the annual O&M costs allocated to irrigation.

AGENCIES CAN INTENSIFY EFFORTS TO MARKET WATER

Although millions of acre-feet of water and storage space are underutilized in Federal reservoirs, the agencies have made little effort to market it. They said that they have no water marketing policies; they generally rely on the marketing activities of State water boards, the local chambers of commerce, and water districts. In some cases, the agencies answer water inquiries; in others, they direct such inquiries to other water organizations. In addition, agency officials said that water marketing organizations may not have accurate information on how much water and space is available in reservoirs.

The Corps and Reclamation prepare press releases when a reservoir is complete and operational or when contract negotiations begin. However, one Reclamation official said that press releases sometimes are not printed by local newspapers. Consequently, information about water availability may not be disseminated locally. Even when printed, however, press releases may not be adequate to inform potential water users because the press releases may not come to the attention of potential buyers.

In contrast to Federal efforts to market water, States with water for sale actively solicit buyers. If States have a repayment obligation, finding prospective buyers is a priority. For example, Wyoming has two contracts with the United States for water from Reclamation's Fontenelle Reservoir, with an annual payment of more than $500,000 to the United States. The State did not wait for buyers to contact it. Instead, it sent letters of inquiry to all potential buyers that it could identify. A State official said that the State searched for buyers because it had a repayment obligation to the United States.

Water in underutilized Federal reservoirs can be marketed although developments which generate a water supply need may be years, or even decades, away. Many companies spend substantial sums to ensure a future water supply from Federal reservoirs; they seem to be purchasing a kind of water insurance policy. For example, companies spent $2.7 million for option contracts for Yellowtail Reservoir water--only to let them expire without requesting water delivery. One energy company spends more than $37,000 a year for water from Fontenelle Reservoir but does not have a facility to use the water. Another energy company pays about $320,000 a year for water in Navajo Reservoir but has not requested any of it. Another company offered three times the original price quoted for Ruedi Reservoir water. Another will begin paying more than $200,000 a year for water from Lake Sakakawea in 1983--even if it cannot use the water.

CONCLUSIONS

Because neither the Corps nor Reclamation have actively marketed water or reservoir storage space, we cannot be certain how much water or storage space might be sold. We can be certain, however, that failure to sell water means a continued financial burden to the Federal Government. As more reservoirs with unsold water are added to the inventory of completed facilities and as O&M costs escalate with inflation, increased Federal funding will be required.

Expeditious cost recovery--or for that matter any cost recovery--requires water sales. If only a portion of the available supply were sold, the Federal costs would be reduced. Numerous firms have purchased a kind of water insurance policy to guarantee future water availability. Other firms might find that similar insurance in other locations might be a worthwhile investment.

However, water sales under current conditions require an energetic and effective marketing effort. Prospective purchasers must know that water is available for sale. They must also know when it is available and under what conditions it can be purchased.

Also, because the Congress authorizes new projects and appropriates funds for O&M costs, it is important that it know that repayment is neither certain nor immediate for many projects with unsold water. Such projects may require long-term Federal funding.

RECOMMENDATIONS

We recommend that the Secretary of the Army and the Secretary of the Interior

--develop an overall water marketing strategy for their agencies and

--annually disseminate information on the available water supply to the Congress, State agencies, and potential buyers.

AGENCY COMMENTS AND OUR EVALUATION

Interior stated that it was willing to initiate a marketing program for a few years to determine if increased information dissemination could increase the demand for unmarketed water. The Department added that it was unsure that such efforts would have much impact on the demand for underutilized water.

The Corps did not agree with the recommendations. It said that it did not promote its programs, that State and local officials were well aware of water availability in Corps reservoirs, and that water rights in many, if not all, western Corps reservoirs were all committed even though the storage space may not all be under contract. It said that in the western States, the States hold the water rights and to actively promote the sale of storage to someone without a water right would be improper. The Corps did acknowledge that there may be some rationale for reporting to the Congress during the annual budget message the status of its municipal and industrial water supply program.

We believe that the only way to determine whether more water or storage space might be marketed is to ensure that potential buyers know that water is available for sale. Therefore, we believe the Interior marketing effort, if appropriately implemented, should determine whether more water can be sold. The Department may find that some firms might be willing to buy a future water supply availability.

Concerning the Corps practice for selling water, it is important to note that repayment depends on water sales, and active water marketing policies seem necessary to speed Federal cost recovery. The projects discussed in this report are all completed. What is needed now is that project costs be repaid as quickly as possible. Each year that passes without water sales means that more O&M appropriations will be needed and that the real value of construction costs repayment is further reduced.

The Corps statement that water rights in many, if not all, western Corps reservoirs were all committed is not correct. Also, not all the water supply in the western States has been appropriated. In such cases, potential water users can apply to the States for water rights. Also, under State water laws and systems, water rights can be purchased from existing rights holders. In this way, potential water users can obtain the necessary water rights to purchase unsold water supply in Federal reservoirs.

CHAPTER 3

PROJECT BENEFICIARIES SHOULD PAY AN EQUITABLE SHARE OF O&M COSTS

Although repayment of construction costs presents a long-term dilemma on underutilized reservoirs, reimbursement for O&M costs on these reservoirs is an annual problem. Who reimburses the Federal Government for unrecovered reimbursable O&M costs for underutilized reservoirs? Usually no one. How much are reimbursable water users charged when they use part of a reservoir's water supply? Often too little. Because agencies' repayment policies are designed to reimburse O&M costs with full reservoir development, they do not ensure adequate O&M cost recovery when a reservoir is underutilized.

On underutilized reservoirs, many reimbursable reservoir users contribute little or nothing to operate and maintain the reservoirs. Others use the reservoirs and do not pay their proportionate shares of O&M costs. As a result, the agencies must use more Federal funds to operate the facilities. If every reimbursable water user paid a proportionate share of a reservoir's O&M costs, less Federal funds for operating and maintaining reservoirs would be required.

This chapter identifies several agency practices that must be changed if O&M costs are to be fairly repaid. These practices include:

--reassigning reimbursable O&M costs to nonreimbursable purposes,

--not allocating O&M costs to some users,

--undercharging some reservoir users for O&M costs, and

--not repaying O&M costs from water option contract revenues.

UNRECOVERED REIMBURSABLE O&M EXPENSES ARE REASSIGNED TO NONREIMBURSABLE PURPOSES

Reclamation reassigns unrecovered reimbursable O&M costs to nonreimbursable purposes (flood control and fish and wildlife) even though other reimbursable reservoir users benefit from the underutilized water and should, therefore, share in the unrecovered costs. Reassigning the costs to nonreimbursable purposes has continued for at least 25 years, although it has been questioned several times.

If reimbursable reservoir purposes do not develop as anticipated, the agency often uses the "current-use method" to

reallocate annual O&M costs. If a multipurpose reservoir includes a reimbursable purpose (such as irrigation) that does not fully develop, the agency reallocates the annual cost of irrigation's share of O&M expenses to nonreimbursable purposes. It does not reallocate part of these costs to reimbursable purposes. For example, Reclamation annually reassigns all unrecovered multipurpose O&M costs associated with irrigation and M&I water on the Yellowtail Dam and Reservoir to flood control and fish and wildlife. None of the costs are reassigned to power, a reimbursable reservoir user. 1/

Yellowtail Reservoir project purposes	Anticipated allocation of O&M expenses (note a)	Amounts reallocated	O&M allocation
	(percent)		
Reimbursable:			
Power	41.0	0	41.0
Irrigation and M&I	48.6	-48.6	0
Nonreimbursable:			
Fish and wildlife and flood control	10.4	+48.6	59.0
Total	100.0	0	100.0

a/Represents the expected allocation of O&M costs if the project is fully developed.

Reclamation has not demonstrated that increased benefits to flood control or fish and wildlife result from the underutilized reservoir; costs are simply reassigned. For example, the amount of reservoir storage space reserved for flood water does not change with the amount of irrigation or M&I sales. Since no additional reservoir space is available to hold more flood waters, increases in flood control benefits are highly unlikely. Generally, flood control benefits will vary with the amount of reservoir space reserved for flood water.

On the other hand, power directly benefits from the unused industrial water. If industrial users diverted water from the reservoir, that diverted water would not be available to generate power. Consequently, unused industrial water permits increased power generation and, therefore, increased power revenues. In

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1/This practice was questioned by Interior's Director of Audit and Investigation on March 26, 1975, in a review of agency financial operations. His position was that the agency reallocation policy was not equitable to the Government.

addition, if the agency does not have to meet the water requirements of irrigation or M&I users, it has more flexibility in generating power during time periods with higher peak power rates. In other words, if the agency does not have to release water to users during off-peak periods, it can release the water and generate power when power rates are at their highest.

In the Yellowtail example, if power, flood control, and fish and wildlife all shared in the unrecovered multipurpose O&M expenses, power's share of O&M expenses would greatly increase.

Purpose	Yellowtail O&M allocation based on actual use
	-----(percent)-----
Power	79.8
Fish and wildlife	2.3
Flood control	17.9
Total	100.0

If the agency had required that power share in unrecovered O&M expenses on Yellowtail Reservoir in 1979, it would have saved the Government $57,900 on that reservoir.

Reclamation's practice of reallocating O&M costs associated with underutilized facilities to nonreimbursable purposes is common in the Upper Missouri region. As the following table shows, the agency increased the nonreimbursable purposes' O&M expenses. Again, none of the unrecovered costs were reallocated to reimbursable purposes.

Reservoir and purpose	Anticipated allocation	Amounts reallocated	Actual allocation
	----------(percent)----------		
Boysen:			
Irrigation	62.5	-56.2	6.3
Flood control	28.1	+56.2	84.3
Power	9.4	0	9.4
Canyon Ferry:			
Municipal	0.9	0	0.9
Flood control	27.5	+22.4	49.9
Power	41.3	0	41.3
Irrigation	30.3	-22.4	7.9

Reallocating unrecovered reimbursable O&M costs to nonreimbursable purposes has led to questionable practices. For

example, because the Angostura Irrigation District operates the Angostura Reservoir and because flood control costs are nonreimbursable, Reclamation annually pays the district for flood control O&M costs associated with that project. However, most of the alleged flood control O&M costs are not for flood control. They are actually O&M costs and related equipment depreciation associated with irrigation canals, irrigation drains, and the irrigation distribution system, which were not fully developed.

Although the costs are classified as flood control costs, they represent irrigation costs that the Federal Government pays to the district for the costs associated with underutilized water. What are called flood control costs are really a Federal subsidy to the district to operate an underutilized reservoir.

Reclamation officials were unable to explain the flood control benefits associated with the irrigation features. They said that the contract was old and that such provisions might not be acceptable anymore. They also said that they would audit their payments to the district to assure that they were appropriate.

Reallocation policies questioned several times

In the past 25 years, many Interior officials have questioned the propriety of reallocating all O&M costs associated with underutilized reservoirs to nonreimbursable purposes. In 1957 an Assistant Commissioner of Reclamation warned that:

> "There are definite limitations to the current use method and it should be applied with judgement. For example, an allocation to power or flood control based on current use should not be permitted to exceed one based on the estimated ultimate use, unless such extra use or benefit was actually obtained."

Reclamation did not change its allocation practices, although the Assistant Commissioner elaborated on how costs should be allocated.

> "All O & M costs are not repaid annually and where necessary may be funded. * * * This means that all O & M funds should be requested through the O & M budget even though some of them are either nonreimbursable or are to be capitalized for future repayment."

(See ch. 4 for more information on capitalization of O&M costs.)

In 1975 Interior's Director of Audit and Investigation commented on the appropriateness of the current-use method of allocating O&M costs to nonreimbursable purposes.

"In our opinion, equity to the Government would require the above allocations to be on a proportionate basis between all existing reimbursable and nonreimbursable functions. To reduce two of these functions to zero, and not proportionately increase all of the remaining functions, results in an inequitable distribution of costs."

However, the Director did not recommend changing the method of reallocating costs.

Reclamation defended its reallocation method stating:

"The current method of allocating O & M costs on Bureau of Reclamation units of Pick-Sloan Missouri Basin Program was established in 1956 and was a basic premise of the Missouri River Basin Project Accounting made to Congress in 1963 and 1964 as a preliminary to the Garrison Diversion Unit Authorization. This method showed payout within the permissable period with only minor increase in hydro-energy rates. If we change the method, so as to increase reimbursable costs, we destroy that premise. Such change, in the view of the Field Solicitor serving our UM [Upper Missouri] Region, would need to be affirmed by Congress and would necessitate a hydro-energy rate increase."

However, the Interior Solicitor has clearly indicated that Reclamation can charge higher prices for water, if a legitimate basis for higher prices can be established. In 1974 the Assistant Solicitor for Water wrote:

"In my opinion, the Secretary has the discretion to fix water rates for M&I uses at levels exceeding the amounts necessary to return the costs presently charged to such uses, * * * so long as there is a reasonable basis for such exercise of discretion and he does not act arbitrarily or capriciously."

* * * * *

"In the absence of an express statutory requirement or a clear expression of intent in the legislative histories, it cannot reasonably be inferred that Congress would have intended to perpetuate rates which, because of changed circumstances years after the feasibility studies were completed, are not only presently unrealistic, but counter-productive from the point of view of encouraging water conservation."

It seems to us that adjusting water rates to correct inequitable practices would be consistent with the criteria for rate changes expressed in the Interior Solicitor's opinion.

The practice of reallocating unrecovered reimbursable costs to nonreimbursable purposes was not consistently applied by Reclamation offices. Although the Upper Missouri region interpreted the Reclamation policy to permit reallocating O&M expenses to nonreimbursable purposes, other regions did not similarly interpret it. The Southwest region did just about the opposite. Instead of reallocating reimbursable costs for underutilized reservoirs to nonreimbursable purposes such as fish and wildlife, this region reassigned all reimbursable O&M costs on the San Juan Chama project to existing irrigators and M&I users.

Also, in the Lower Missouri region, the agency allocated 5 percent of total O&M costs on the Glendo Reservoir to irrigation regardless of the amount of unused water, the sales of irrigation water, the revenues collected, or O&M costs. Although water sales varied from year to year, the 5-percent reimbursement requirement remained constant.

PROJECT REVENUES ARE NOT ALWAYS USED TO PAY O&M COSTS

Reclamation does not always use O&M revenues to pay O&M costs. In some instances, it applied O&M revenues to repay reservoir construction costs. Such a practice results in the Federal Government rather than the benefiting water users paying reservoir O&M costs because reimbursable O&M costs that are not repaid annually are usually never recovered. Sometimes, the agencies did not charge users for O&M expenses because the Congress did not authorize a specific reservoir use. Some Corps district officials claim that they can sell water for unauthorized purposes but cannot charge O&M expenses for those purposes.

Reclamation's Lower Missouri region sold water under short-term contracts to irrigators using Bonny and Waconda Reservoirs. The region notified its Commissioner that part of the water price included an O&M charge. However, because the region credited all revenues from these contracts to construction repayment, the Federal Government, in effect, was not reimbursed for project O&M costs.

The region also credited all short-term revenues from temporary M&I contracts to construction repayment without crediting any revenues to reimbursable O&M costs. For example, although Bonny and Glendo Reservoirs originally had reimbursable O&M allocations, Reclamation did not use any of the revenues from short-term (and renewed) M&I sales contracts to reimburse O&M costs. Instead, it credited the revenues to construction repayment and reassigned all O&M costs to flood control (a nonreimbursable purpose). When we notified the region that it had credited the revenues incorrectly, it reallocated the revenues to O&M reimbursement.

The Lucky Peak Reservoir is another case where water users did not repay O&M costs. The reservoir was built for flood control and did not have any reservoir space allocated to irrigation; however, irrigators have purchased about 112,000 acre-feet of reservoir space. Because the reservoir was built for flood control (nonreimbursable), all O&M expenses are paid by Federal funds. A Corps official explained that the O&M costs cannot be allocated to irrigation because irrigation water supply was not specifically authorized.

In their response to the draft of this report, the Corps wrote,

> "While there is replacement storage in Lucky Peak which is used for irrigation water, the Corps is not aware of any contracts for irrigation water from the project. The Resources Service [Bureau of Reclamation], in their annual financial statements, lists funds received from irrigation from the Lucky Peak project. The Corps does not know the basis for this * * *. The Resources Service [Bureau of Reclamation] must be contacted to develop this information."
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> * * * * *
>
> We believe that under the current authorization, any costs assigned to irrigation should be derived by agreements between WPRS [Reclamation] and the located interests in accordance with original agreements for water from Arrowrock and Anderson Ranch."

Although Lucky Peak has been used for years to deliver water to irrigators, they have not been required to reimburse their share of the project's O&M costs. It seems appropriate that Reclamation and the Corps finally agree on O&M cost-sharing arrangements and on the division of annual irrigation receipts.

WATER RATES DO NOT ALWAYS INCLUDE THE PROPER AMOUNT FOR O&M COSTS

Although Federal law requires that reimbursable O&M costs be recovered, the agencies did not include an adequate O&M allowance for some reservoirs. Instead, they used outdated rates, and the Federal Government absorbed the higher O&M costs. For example, Reclamation used outdated and inaccurate information to calculate water rates on the Willamette River Basin Project. The Corps, which operates the Willamette River Basin reservoirs, gave Reclamation 1965 O&M figures on which to base its 1980 cost calculations. Reclamation, which markets the water, used the old data to charge irrigators for O&M costs.

Reclamation and Corps personnel agreed that an incorrect rate was used and said that it resulted from a misunderstanding

between the two agencies. According to agency estimates, about $10,000 a year was lost by using the incorrect figures. They advised us that new billings will include a 25-percent rate increase so that all O&M costs can be recovered.

Also, Reclamation issued new contracts that did not account for increases in O&M costs since prior contracts were written. For example, on Glendo Reservoir, at least eight contracts were issued to irrigators between 1958 and 1977. However, the O&M charges for the eight contracts were based on the 1958 costs. It was not until 1979 that new contracts included higher O&M charges. Although the agency had the opportunity to pass on higher O&M costs with each new contract, it did not do so until 1979.

RECLAMATION DOES NOT ALLOCATE OPTION REVENUES TO REPAY O&M COSTS

Although Reclamation instructions state that all authorized purposes benefited by a project must be allocated O&M costs, the agency reassigned all O&M costs associated with water option contracts to nonreimbursable purposes. For example, by fiscal year 1979 the Upper Missouri region had collected $2.7 million from 10-year option contracts on Yellowtail Reservoir. The revenues were credited to construction repayment. The regional office reassigned the O&M costs, for the water reserved for option contractors, to nonreimbursable purposes. As a result, Federal funds were used to operate and maintain the reservoir. Agency personnel explained that option contract revenues were not applied to repay O&M costs because water was not delivered to the option contractors. However, option contracts reserve water for the future use of the contractors. Therefore, the contractors benefit from O&M costs which maintain the availablity of a future water supply.

Reclamation instructions suggest that future uses benefits require an O&M allocation. The instructions state that:

> "Multi-purpose operation and maintenance expense shall be allocated to all authorized project purposes, both reimbursable and nonreimbursable, that are currently being served or benefited. * * * The determinations are to be based on actual operations, but as implied above operations are to recognize the services and benefits of the joint facility in its entirety; e.g. a multi-purpose dam allocated in part to flood control even though water runoff during a specific 6-month period was such that there was no flood danger."

Headquarters' officials in the Division of Program Coordination and Finance could not explain if this instruction should be applied to option contracts. However, the agency did not use a similar policy in deciding whether unused reservoir space reserved for nonreimbursable purposes should share in O&M costs.

It regularly allocates O&M costs to nonreimbursable purposes, like flood control, even though the reservoir may not be used for flood control for years. Agency officials explained that they allocated costs to flood control because the reservoir space is reserved for possible floods. Similarly, if water or space in a Federal reservoir is reserved for a particular, identified industrial user, Reclamation should allocate a share of O&M costs to those that reserve the reservoir space.

In addition, many contractors on Reclamation reservoirs share in O&M costs even if they never use the water. Part of the price of water under water sales contracts pays for O&M costs, independent of whether or not the contractor requests delivery of the water.

CONCLUSIONS

Large amounts of underutilized water limit the opportunities to reimburse the Government for O&M expenses. However, agencies have not exercised the available opportunities to recover costs. Simply, agencies did not require that all users of reimbursable project purposes pay a proportionate share of O&M expenses. They did not update costs annually; sometimes for many years. Also, they did not allocate option contract revenues to repay O&M expenses which were reallocated to nonreimbursable purposes.

Also, Reclamation used one standard to reallocate costs to reimbursable purposes and another, but in an inconsistent way, to reallocate costs to nonreimbursable purposes. If underutilized water does not provide additional benefits to nonreimbursable purposes, the cost allocation is unwarranted. (See ch. 4 for a new alternative to cost reallocations.) However, if benefits increase, the benefited reservoir purposes should have increased repayment responsibilities--whether or not the purposes are reimbursable.

Concerning option contract sales, because option contractors have a right to the water reserved for their future use, Reclamation should ensure that each contractor shares in the cost of operating and maintaining a reservoir. Otherwise, Federal expenditures must pay the O&M costs associated with the water reservations. Because proper maintenance of the reservoir is necessary to provide for the future availability of water, Reclamation should fairly allocate option revenues to O&M cost recovery.

The Congress established some project purposes as reimbursable and some as nonreimbursable. Neither the 1939 act, nor the 1958 act (see ch. 1), limit reimbursements for O&M expenses to purposes authorized by individual project authorizations. However, if the Corps and Reclamation believe that congressional authorization is required to equitably recover O&M costs from water users of purposes not specifically authorized, agencies should seek specific congressional approval to sell water or storage space for such water uses.

We believe the Corps and Reclamation can make many improvements to achieve more equitable O&M cost recovery. These changes will reduce the Federal appropriations supporting annual O&M costs that should be paid by reservoir beneficiaries.

RECOMMENDATIONS

We recommend that the Secretary of the Army and the Secretary of the Interior issue instructions requiring

--all reservoir uses to share equitably in O&M cost recovery,

--all O&M charges to be updated annually and applied to new or amended contracts, and

--congressional authorization to be sought for water uses not specifically authorized.

We also recommend that the Secretary of the Interior issue instructions requiring that

--option revenues be equitably allocated to O&M cost recovery,

--O&M cost reallocations be limited to those based upon demonstrated changes in benefits, and

--reallocation policies be equally applied to both reimbursable and nonreimbursable expenses.

AGENCY COMMENTS AND OUR EVALUATION

The Interior Department commented that the discussion of O&M cost allocations demonstrated a need to review and standardize its guidelines on the allocations of such costs. Interior did not elaborate on the specific actions it might take to improve its cost allocations.

The Corps explained that the recommendations directed to it were consistent with Corps policy, with one exception. The Corps said that if it exceeded congressional authority to add project purposes, then it would go to the Congress for additional authority.

Our report does not state that the Corps lacked authority to market storage space in its reservoirs. It was Corps officials who explained that they could not charge certain reservoir users for O&M expenses because such uses had not been specifically authorized by the Congress. We believe that all water users of reimbursable reservoir purposes should share in O&M cost recovery because the Congress declared that irrigation and M&I uses of Federal reservoirs were reimbursable uses. We believe that every reservoir user for either of these purposes should share in O&M expenses--unless the Congress specifically declares otherwise.

CHAPTER 4

PRUDENT REPAYMENT POLICIES AND PRACTICES WOULD ENHANCE EQUITABLE COST RECOVERY

Repayment policies and practices make it difficult to fully identify and recover reservoir costs on underutilized reservoirs. Although Federal laws require that reservoir reimbursable uses pay their share of Federal costs, agency policies and practices do not permit certain costs to be included in water price determinations. As a result, current and future reservoir users do not and will not reimburse the United States for all reimbursable costs and Federal funds finance an inordinate portion of reservoir costs. The questionable policies and practices

--prevent unrecovered reimbursable O&M expenses from being accumulated and considered in future price determinations,

--exclude interest reimbursement on some M&I water sales,

--do not result in revised cost allocations to recognize actual reservoir uses, and

--preclude applying net revenues from certain water sales to reservoir repayment.

CERTAIN O&M COSTS ARE NOT CONSIDERED IN FUTURE PRICE DETERMINATIONS

Instead of accumulating costs for reimbursable purposes on underutilized reservoirs and considering such costs in establishing future water prices, agencies reassign them to nonreimbursable categories. Consequently, the Corps and Reclamation do not require that reservoir users reimburse the United States for the O&M costs needed to maintain a reservoir's capability of delivering water. Such O&M costs include those associated with safeguarding, inspecting, testing, and repairing a reservoir's facilities.

In the Reclamation Lower Missouri region, none of the reimbursable purposes developed as anticipated on several reservoirs. However; instead of accumulating the reimbursable O&M costs for the reservoirs, Reclamation reallocated all or a portion of these costs to nonreimbursable purposes.

Examples of Reservoirs with Reimbursable O&M Expenses Reallocated to Nonreimbursable Purposes (Fiscal Years 1975-79)

Reservoir	Reimbursable expenses reallocated to nonreimbursable categories
Bonny	$203,516
Norton	89,586
Ruedi	53,784
Total	$346,886

The reallocations prevent the United States from recovering the O&M costs since nonreimbursable costs are not repaid. Reclamation reallocated all reimbursable O&M expenses for Ruedi Reservoir to a nonreimbursable purpose. Although the initial reservoir justification included only a 19-percent allocation of O&M expenses to fish and wildlife, the agency allocated 100 percent of all costs to that purpose between 1975 and 1979. Since fish and wildlife expenses are nonreimbursable, Federal appropriations paid for all the reservoir's O&M costs.

Regional officials said that the reallocation to fish and wildlife was necessary because fish and wildlife was the only purpose that used Ruedi Reservoir. However, about 50,000 acre-feet of Ruedi's water is reserved for future reimbursable users, and several contracts for water have been requested. Under such circumstances, O&M costs assignable to such reimbursable uses should be accumulated for consideration in future water prices.

In contrast, the regional office had reallocated reimbursable O&M costs to nonreimbursable purposes when the nonreimbursable purposes did not use a reservoir but the reimbursable purposes did. For example, Reclamation reallocated 100 percent of all reimbursable O&M costs on Bonny Reservoir to flood control for more than a decade even though no water had entered the flood control pool since 1969 and water from the reservoir was used for both irrigation and industrial purposes during the same period. When we told agency officials that they had not allocated any costs to reimbursable users, the allocation was corrected.

The Corps also reassigns reimbursable O&M expenses to nonreimbursable categories, but it uses a different method. Rather than reallocating these expenses to nonreimbursable purposes such as flood control, the Tulsa office reclassifies the expenses as "nonreimbursable water supply expenses."

Between fiscal years 1975 and 1979, the Corps' Tulsa district office reclassified M&I expenses as nonreimbursable for the eight projects listed below.

Reimbursable
M&I Expenses
Reclassified as Nonreimbursable Expenses
for 5 Years (1975-79)

Resevoir	Total reimbursable O&M expenses	Reimbursable expenses reclassified as nonreimbursable	Reclassified expenses as a percent of total M&I expenses
Millwood	$ 709,809	$642,874	91
Pat Mayse	316,925	228,505	72
Hugo	234,709	224,306	96
Dierks	212,869	208,845	98
Waurika	194,051	142,368	73
Oologan	186,869	161,847	87
DeQueen	102,309	102,309	100
Birch	89,832	89,832	100
Total	$2,047,373	$1,800,886	88

As a result of this reclassification, 88 percent ($1.8 million) of the reimbursable O&M expenses for the eight reservoirs is paid by Federal funds. These costs are not accumulated for consideration in future water prices.

However, the Corps does not reallocate reimbursable O&M costs to nonreimbursable categories for water reserved for current use. For example, instead of reallocating the O&M costs on Wynoochee Dam and Lake to nonreimbursable M&I expenses, the Corps accumulated all the unrecovered O&M costs and included them in the repayment contract. Beginning October 1, 1983, the city of Aberdeen, Washington, will pay $161,545 per year for $3.6 million in O&M costs incurred between 1973 and 1982. These charges for "old" O&M costs will be in addition to current charges.

A Corps official said that the Water Resources Development Act of 1974 gave them authority to accumulate unrecovered O&M expenses and charge those expenses to the city of Aberdeen. Corps officials in Seattle added that they were accumulating all unrecovered O&M costs on Wynoochee water reserved for future use so that they could charge eventual users for unrecovered costs. Headquarters officials said that such charges would be inconsistent with Corps policy.

RECLAMATION PROVIDED INTEREST-FREE INDUSTRIAL WATER

The Reclamation Project Act of 1939 and the Water Supply Act of 1958 both authorize interest charges for industrial water, and Reclamation policy requires construction costs to be repaid with interest for industrial water sales. However, many contracts were written without requiring interest payments. Instead of

allocating some reservoir revenues from industrial water sales to repay interest expenses, all revenues were credited to construction repayment. As a result, the Federal Government does not recover interest costs. For example, Reclamation allocated $371,000 of Glendo Reservoir's construction costs to M&I water supplies. Most of these costs will be repaid by an energy company that is using the reservoir water and storage space. However, interest costs were not added to the cost allocation; instead, the revenues received for M&I users were assigned to construction repayment and the Federal Government absorbed the entire interest cost. Regional officials explained that they did not charge interest because the reservoir was not originally built for industrial use.

SOME RECLAMATION CONTRACTS DO NOT REPAY ANY FEDERAL COSTS

Although Reclamation issued two contracts to sell water from its Pathfinder Reservoir to an energy company, an old agreement with some irrigation districts required that all revenues from such sales be credited to the irrigation districts. If, instead of selling water from Pathfinder, the agency had sold the water to the energy company from Glendo Reservoir, it could have used the $37,500 in revenues to repay reservoir costs. If Reclamation continues to market water from reservoirs that do not yield the Federal Government any revenue, considerable sums of potential revenue will be lost.

During the last 3 years, Reclamation's Lower Missouri region issued five temporary 500-acre-feet water service contracts to an energy company in Wyoming. Water from the five contracts was used in the company's steam electric power plant in Glenrock, Wyoming. Two of the contracts were issued for water from the Pathfinder Reservoir; the other three were for water from Glendo Reservoir.

Agency policy permits regional officials to issue contracts for water sales of up to 500 acre-feet per contractor without review by officials outside the region. The contracts require no justification of the price charged or of how the revenues will be used.

All revenues from water sales from Glendo Reservoir repay the reservoir's construction costs. However, the revenues from Pathfinder water sales are not used to repay its costs because of a second contract between the United States and certain irrigation districts that require all excess revenues from Pathfinder water sales to revert to the irrigation districts.

Regional and headquarters officials said that it was very unusual to have contracts for water sales from Federal reservoirs with the revenues not credited to the reservoirs. They added that because of regional authority to market 500-acre-feet contracts without headquarter's approval, headquarters was unaware of the contract provisions.

Reclamation did not have to sell water from the Pathfinder Reservoir. Water could have been sold to the energy company from Glendo Reservoir, which did not have a contract provision to transfer the revenues to the credit of a third party. In addition, the Wyoming State Engineer said that he would have preferred that the water sales been made from Glendo.

A regional agency official explained the Pathfinder sale by stating that local politics dictated that sales be made from Pathfinder and that the regional office wanted to establish the higher Pathfinder price as the local prevailing price. Then, the regional office could sell water from other Reclamation reservoirs at the higher "prevailing" price. Regional officials later reconsidered and said that water sales from Pathfinder were unwarranted and the practice would be discontinued. Instead, future sales would be from the Glendo Reservoir.

COST ALLOCATIONS ARE NOT REVISED FOR ACTUAL RESERVOIR USES

Sometimes, the agencies use the original cost allocation as the basis for charges to reservoir users even when current use is different than the use included in the original cost allocation. Failure to reallocate costs to recognize actual use, as required by Reclamation instructions, results in unrealistic repayment requirements for project beneficiaries.

Reclamation instructions for multipurpose O&M expenses clearly state that actual operations should determine the cost allocation:

> "Multi-purpose operation and maintenance expense shall be allocated to all authorized project purposes both reimbursable and nonreimbursable, that are currently being served or benefited."
>
> * * * * *
>
> "* * * The determinations are to be based on actual operations * * * "

Although the instructions are explicit in requiring that O&M costs be allocated to current reservoir users, they were not always followed.

For example, in 1974 Reclamation negotiated a 15-year contract with an energy company for 2,000 acre-feet of storage in in Glendo Reservoir. Industrial water use was not included in the original cost allocation. The 1974 contract does not provide for any reimbursement of annual O&M expenses. Instead, O&M expenses are allocated to flood control, a nonreimbursable function. Although the agency could have allocated some revenues to repay O&M expenses, all contract revenues were allocated to

construction repayment. In addition, Reclamation is negotiating a similar contract for another 2,000 acre-feet of storage.

Similarly, contracts for water sales to industrial users of Lake Sakakawea in North Dakota do not provide for O&M reimbursement. Industrial water use is not included in the cost allocation. Instead of allocating some water sales revenues to repay O&M costs, all revenues were credited to another project and, as a result, the Federal Government absorbs all related O&M costs. Since the Corps operates the reservoir and Reclamation markets the water, both agencies incur O&M expenses that could be allocated to actual reservoir users.

CONCLUSIONS

Repaying an appropriate share of reservoir costs is not voluntary or optional; it is required. However, the agencies' cost allocation methods, in effect, serve as a mechanism for precluding such cost recovery. Both agencies routinely reallocated reimbursable expenses to nonreimbursable categories because reimbursable users did not use all water allocated to them. However, both agencies did not reallocate nonreimbursable costs to reimbursable purposes when changes in reservoir use warranted such reallocations.

The Federal Government incurs construction costs to make water available for delivery. For the same reason, it incurs O&M costs to maintain a reservoir's viability. Certain O&M expenditures are essential to ensure a project's future operation and the continued availability of its water supply. Therefore, it seems reasonable that the O&M costs necessary to maintain a reservoir's long-term viability should be considered in determining the repayment requirements for future water users.

If underutilized reservoirs do not provide increased benefits to nonreimbursable purposes, the reimbursable O&M costs allocable to underutilized water supplies should be accumulated and considered in future water price determinations. Future reservoir users should share in project O&M costs that were necessary to make water available to them. To reallocate such O&M costs to nonreimbursable purposes unfairly increases Federal funding and shifts repayment responsibilities from reservoir users.

Also, it is inappropriate to exclude interest as a cost in establishing water sale prices to industrial water users. The law and Reclamation policy both authorize interest charges for industrial water users. If industrial water is sold, part of the revenues should be allocated to repay interest expenses.

In cases such as Pathfinder Reservoir, where the revenues from water sales were not used to repay Federal costs, we believe that specific headquarters' approval should be required

for such contract provisions. Such approval is especially important in cases such as Pathfinder because water sales from another Federal reservoir would have benefited the Federal Government.

If a reservoir is used for purposes not specifically authorized, authorization should be obtained, but in any event, such uses should be recognized in cost allocations. If a reimbursable reservoir purpose uses water, it should not matter whether or not the use is authorized in determining repayment requirements. If water or storage space is sold for a reimbursable purpose, the users should share in cost recovery.

RECOMMENDATIONS

To provide for equitable cost reimbursement on underutilized reservoirs, we recommend that the Secretary of the Interior and the Secretary of the Army establish policies that will require

--unrecovered reimbursable O&M costs to be accumulated and considered in future price determinations;

--an interest allocation to be included in all water charges to M&I users; and

--all project purposes to share, in accordance with actual reservoir uses, in O&M expenses.

We also recommend that the Secretary of the Interior

--require specific approval of the Commissioner of Reclamation when contract revenues from Federal reservoirs will be applied to a non-Federal entity.

AGENCY COMMENTS AND OUR EVALUATION

The Department of the Interior advised us that it plans to investigate the allocation of O&M costs and the assignment of unpaid costs to reimbursable functions.

The Corps said that it did not concur with our recommendations on the recovery of unrecovered O&M costs and added that these costs need not be paid until a project's water was used. It said that until a project's storage space was required for reimbursable purposes, it was used for other beneficial purposes and these other beneficial uses should be reflected in the cost allocations. However, the Corps' locations that we visited did not reallocate unrecovered O&M costs to other beneficial uses. Corps Tulsa officials annually reallocated unrecovered O&M costs to an account they called "nonreimbursable water supply costs."

Also, while the Congress allowed repayment to be delayed until the water was used, it did not declare that the costs are nonreimbursable. It seems to us that the Corps policy, if applied, does not adequately recognize a repayment obligation for O&M costs necessary to maintain a reservoir's continued availability of a water supply. We noted that the Corps Seattle office has a policy that, if implemented, will require repayment of the unrecovered costs for future water supplies in Wynoochee Reservoir. Seattle officials said that they intended to recover these costs.

CHAPTER 5

CHANGES IN RECLAMATION PRICING POLICIES AND PRACTICES WOULD ENHANCE COST RECOVERY

Several Reclamation pricing policies and practices make it difficult to recover reservoir costs. They can also increase the requirements for Federal funds and shift the burden of repayment from reservoir users to the Federal Government. Such pricing policies and practices result in inequitable cost recovery because the water sales price determinations

--were infrequently updated for current conditions,

--were incorrectly calculated,

--did not include the value of all reserved water, and

--did not consider the amount of expected water sales.

WATER PRICES WERE INFREQUENTLY UPDATED FOR CURRENT CONDITIONS

Reclamation did not annually reevaluate its water sales prices to ensure that they were still appropriate. Although agency policies and many contracts permit periodic price reevaluations, Reclamation did not always make use of the opportunities to adjust water prices. As a result, it sometimes charged inadequate prices for years.

Reclamation did not update contract prices when contracts were renewed. Despite changes in O&M costs and possible changes in water users' ability to pay such costs, water prices remained constant. As a result, prices can quickly become outdated and inadequate to repay Federal costs in a timely manner. For example, water prices for reservoirs such as Glendo, Bonny, Waconda, and Navajo were unchanged for years. Although the agency had opportunities to change the prices whenever a new contract was issued, it did not always take advantage of the opportunities.

Even after long periods between contract renewals, Reclamation did not initiate new price calculations. For example, on Bonny Reservoir, one 1966 water contract with an oil company expired in 1979. Instead of adjusting the price of water to account for changed conditions, Reclamation granted a 5-year renewal at the 1966 price ($12.50 per acre-foot). Regional officials said that they had the authority to increase the $12.50 price but had not used that authority.

One factor precluding price adjustments for changing conditions is that water sale contracts may not provide a price adjustment clause. However, on the reservoirs identified above

(Glendo, Bonny, Waconda, Navajo), existing contracts did not have to be changed, the water prices could have been revised with each new contract issued.

Interior has a policy of including 5-year renewal provisions in its water sale contracts to permit price flexibility for changing conditions. Nevertheless, if those provisions do not specify the method for determining prices or if they require mutual consent to change prices, updated prices are far from certain. For example, the Columbia River Project has a 5-year rate adjustment provision in one 1968 contract. In 1972 Reclamation officials began a study to determine what water rates should be charged. When they completed the review and informed the water district of the new rate, the district refused to pay it. Agency officials said that the water contract did not include a method for recalculating the new prices or establishing a basis for changing the price; it only said there would be a rate adjustment.

Reclamation billed the Columbia River Project water district at the new rates, but the district paid the old rates. An agency official said that the only way to have resolved the dispute was through court action. Agency officials said that a provision in the contract defining the method for changing prices would have given them support for the changes.

In commenting on the draft of this report, Interior reported that

> "As a result of a recent court settlement, the Columbia Basin irrigation districts agreed to pay their share of deficits incurred by the United States for operating and maintaining reserved works of the Columbia Basin Project. This action has effectively resolved the district's O&M deficit which has accrued over the past several years. However, the possibility still exists for future disagreements over the methodology employed in computing the district's portion of the O&M incurred for the joint-use facilities. The experience with the Columbia Basin irrigation districts does illustrate the difficulties which can be encountered in administering rate adjustment provisions."

WATER SALES PRICES WERE INCORRECTLY CALCULATED

On several occasions, Reclamation incorrectly calculated water sales prices. In all cases, the contract prices were too low, which delayed Federal cost recovery. For example, on December 29, 1978, the Commissioner of Reclamation issued new guidance for irrigation contracting entitled "Irrigation Contracting Policies." The new policies and procedures applied to all new, amended, and temporary contracts. Included in the new guidelines were requirements that, in future contracts with irrigators,

--ability to pay was the basic water price determinant and

--reservoir users, without exception, were to pay all operation, maintenance, and replacement costs.

However, these requirements were not uniformly applied. We noted the following for the 1980 irrigation contracts for Waconda Reservoir:

--The $6.20 price per acre-foot charged to irrigators for delivered water was based upon the 1976 average price of surplus water from all irrigation districts within one project office's jurisdiction. The same price was paid every year between 1976-80 for all annual contracts. No ability-to-pay analysis was performed in any year.

--Irrigators will repay only about 11 percent of the estimated $53,000 of operation, maintenance, and replacement costs allocated to irrigation.

Agency officials explained that although the $6.20 price per acre-foot was not established in accordance with the 1978 instruction, it was a reasonable price. They said that the price was based upon what irrigators were paying elsewhere, and therefore, it should closely approximate their ability-to-pay. They added that the $6.20 price was also sufficient to recover all reservoir costs.

Although the $6.20 price was similar to other irrigation charges in 1976 when it was established, it was no longer similar in 1980. The 1980 comparative price was $7.30 per acre-foot. In commenting on the draft of this report, Interior stated, concerning the Waconda reservoir, that a payment capacity analysis would not be inexpensive and, therefore, would be hard to justify. However, although the expense of completing such a study might justify noncompliance with the Commissioner's guidelines, such a rationale does not justify the use of a 1976 water rate determination as the basis for water rates between 1977 and 1980. For example, the comparative water rate in 1980 was $7.30, not the $6.20 (1976 rate) used on all irrigation sales from Waconda. Interior also reported that the 1981 price has been increased to $7.30 per acre-foot.

In addition, the price is no longer sufficient to recover all reservoir costs because of a local office decision that the Federal Government absorb all costs associated with water losses incurred in delivering water to irrigators. For example, the project cost allocation is based upon the sale of 44,000 acre-feet of water. If all 44,000-acre feet were sold, reservoir O&M costs could be recovered. However, since about one half of the water will be lost during delivery of water to irrigators, Reclamation cannot sell 44,000 acre-feet of delivered water.

Instead, about 22,000 acre-feet can be delivered. If the agency sold all the water available for delivery (22,000 acre-feet), all reservoir costs could not be recovered because cost recovery requires 44,000 acre-feet of sales.

Another example of incorrect calculations of water prices are those established for the Navajo Reservoir. These prices were based upon an outdated cost index. On March 31, 1980, the Upper Colorado regional office wrote the Commissioner explaining its new prices for water sales from the Navajo Reservoir. It reported that the new annual rate was to be $15 per acre-foot plus $1 per acre-foot for annual O&M costs; this rate is more than twice the rate charged in the first Navajo contracts.

Agency officials explained that the new prices were necessary to reflect the increased value of water. However, the analysis was based on a 1979 cost index. Had a 1980 index been used, the price would have been $18, not the $16 actually charged. The new index was available in January 1980.

WATER CAN BE RESERVED WITHOUT COST

Sometimes, Reclamation did not charge users to reserve water for future use. It based water prices on water deliveries, not on how much water is reserved. Since reservoir users often pay only for what they use, they can reserve some Federal reservoir water without any additional cost. This practice can encourage large speculative water reservations. Because the water reservation may be costless, reservoir cost repayment is slowed.

Also, the policy of free water reservations is inconsistently applied; some contractors must pay for all reserved water. For example, the Lower Missouri region essentially allows users to reserve water at no cost. The agency granted an oil company a 5-year renewable, 3,000-acre-foot-per-year water service contract from Bonny Reservoir at $12.50 per acre-foot of water per year for all water delivered. Only the price of the first 200 acre-feet (200 x $12.50 = $2,500) must be paid. The $2,500 is a nonrefundable "readiness to service" charge which is credited against water deliveries. If 200 acre-feet of water are used, the other 2,800 acre-feet are reserved at no cost to the oil company--the oil company only pays for delivered water. During 1979 only 228 acre-feet of the 3,000 acre-feet water reservation was used. The remainder was unused, and the 2,772 acre-feet of water was reserved by the oil company at no cost.

PRICES ARE BASED ON MAXIMUM AMOUNT OF WATER AVAILABLE, NOT ON EXPECTED SALES

Reclamation usually bases water prices on the total amount of water available for sale, rather than on how much water is being sold. If 10,000 acre-feet were available for sale but only

5,000 is sold, only half of the costs would be reimbursed; the Federal Government would absorb the difference. Since there is so much unsold water in Federal reservoirs, this pricing practice cannot ensure adequate construction or O&M cost recovery. For example, the $26-per-acre-foot price for M&I water from the San Juan Chama project is based on the sale of all 60,880 acre-feet of available water although not that much M&I water is being sold.

Also, the agency's pricing practices are not uniformly applied to all contractors; some contractors had to pay higher prices to make up for underutilized water. Recognizing that not all water would be sold annually, the agency sometimes escalated the price to account for slow water sales. For example, on the Colorado River Storage Project, an annual payment of only $2.50 per acre-foot would repay all construction costs, with interest, in 40 years if all water were sold. However, knowing that all water would not be sold, Reclamation doubled its base price on the Navajo Reservoir to $5 per acre-foot per year so that construction costs would be recovered in a more timely manner. The $5 per acre-foot price has been raised substantially since it was established, and the current price is $15 an acre-foot.

CONCLUSIONS

Reclamation did not use pricing practices that would ensure equitable recovery of reservoir costs. While it had the opportunity to increase cost recovery, it did not do so. Prices remained constant for years even though conditions that justified the old prices had changed.

We believe that water prices should be reevaluated with each new contract. Conditions change; O&M costs change. Last year's prices should not prevail with each succeeding year if changes in O&M costs justify new water prices. Also, agency policies should be consistently applied among its regions to ensure more equitable treatment to all Reclamation water users.

The decision on Waconda Reservoir to have the United States absorb all water delivery losses will be expensive. A policy of basing sales prices upon how much water can actually be sold seems desirable. A pricing policy based on a water supply that cannot be delivered impedes cost recovery. It seems appropriate to reevaluate this policy. Reclamation should consider the regional pricing policy for Navajo Reservoir as an example of how cost recovery might be expedited.

RECOMMENDATIONS

An overall policy should be established to set prices that will ensure prompt and consistent cost recovery of all reimbursable reservoir costs. Therefore, we recommend that the Secretary of the Interior require

--annual water price reevaluations as a basis for establishing new or amended contract prices;

--water prices to be based upon how much water can be delivered and sold;

--water contracts with renewal provisions to specify the method for price adjustments; and

--reasonable payment for all water reservations.

AGENCY COMMENTS AND OUR EVALUATION

The Interior Department stated that time and personnel constraints may not allow annual price adjustments on short-term contracts, that it would evaluate price adjustment language in contracts on a case-by-case basis, and that it had inconsistencies in its pricing practices that needed reevaluation.

We believe that the data needed to make the necessary price adjustments discussed in this chapter were readily available to agency personnel and that the analysis of new prices would have been easy to complete. The short-term price changes could have been updated with little additional time or effort.

CHAPTER 6

RECLAMATION PRACTICES NEED TO BE MORE CONSISTENT

Reclamation could decrease the amount of Federal appropriations for operating and maintaining Federal water projects and provide for more equitable repayment of construction costs by establishing realistic repayment policies and consistently applying such policies. Since most underutilized water or storage space in Federal reservoirs may remain so for years and new reservoirs will probably increase the amount of underutilized water, more and more Federal funds will be required to operate and maintain reservoirs. Nevertheless, the reliance on Federal funds can be decreased; several of the changes we are recommending in this report would be both fair to water users and easy to implement.

Reclamation faces a serious dilemma. It has millions of acre-feet of reservoir water not being used for the purposes that the Congress authorized. In some reservoirs, expected reimbursable purposes have not developed at all. Instead, water that was to be used for irrigation, municipal, or industrial purposes remains unsold, and apparently unwanted, in Federal reservoirs.

In all likelihood, most of the underutilized water will remain unsold for many more years. If congressionally authorized uses of Federal water supplies do not develop, who should repay the United States for reimbursable construction and O&M costs? We believe future reservoir users (project beneficiaries) should pay a reasonable share rather than the Federal Government continuing to assume the major responsibility. If new reimbursable uses develop, should such beneficiaries contribute to project cost recovery? The practice of not requiring new reimbursable users to share in project cost recovery is not equitable. Those who directly benefit from a Federal reservoir's water supply should pay a fair share commensurate with the benefits received.

As long as agency policies recover only the original cost, the value of repayment diminishes each year the water remains unsold. Because of inflationary effects, the Government is repaid with cheap dollars. Even if interest is accumulated, the value of repayment diminishes annually. As long as the rate of interest is less than the rate of inflation, real repayment will decrease.

Many immediate improvements are needed.

--First, project cost recovery must have a higher priority. Federal officials must place more emphasis on establishing and adhering to equitable repayment policies and practices.

--Second, all costs, including interest required by law, properly allocated to reimbursable purposes, should be identified, accumulated, and considered in future rate determinations.

--Third, Reclamation must establish realistic water prices considering current costs, actual project uses, and when applicable, the market value of water. Such considerations would help offset the increasing costs for operating and maintaining Federal reservoirs.

In some cases, Reclamation has sold water for its increased market value. Some firms have paid millions of dollars to reserve water for future use. The firms seem willing to pay for a kind of "water insurance policy" even though they are not currently using the water supply. It seems to us that such water insurance has value and that firms may be willing to pay for it--as they have demonstrated many times.

The agency could decrease its responsibilities for O&M costs. It could apply all revenues derived from reimbursable project purposes to the recovery of O&M costs first. Revenues would not be credited to construction repayment until annual O&M costs are recovered.

Also, repayment policies are too flexible and are inconsistently applied. Sometimes, we had difficulty obtaining an explanation from Reclamation headquarters on the intent and application of its regulations. For example, officials agreed that their instruction on the distribution of multipurpose expenses could be contradictory in certain circumstances and can be interpreted in varying ways. Such instructions should be clarified.

The five Reclamation offices we visited apparently established local repayment policies without headquarter's guidance. We were often told that one of our suggestions for improvement was "inconsistent with policy," only to discover that it was policy elsewhere. For example, we were told that original cost was the basis for establishing water prices. However, Salt Lake City used cost indexes to escalate (triple) the original price of Navajo Reservoir water. We were also told that O&M cost allocations must be based on water deliveries. However, current users of the San Juan Chama project pay for all the O&M expenses, even though some water is unused. We were told that the Federal Government cannot make a "profit" on water sales; then we found that the agency charged prices several times the allocated cost on a total per acre-foot basis on reservoirs such as Glendo and Navajo.

In commenting on the draft of this report, Interior said that the prices charged for water at Glendo and Navajo Reservoirs will accelerate the repayment of other reimbursable costs. When total revenues from these projects exceeded the amount of reimbursable costs, a new pricing policy would be established. We

believe that pricing water so as to expedite repayment has substantial merit. However, Reclamation did not use the same policy at Fontenelle, Heron, or Bonny Reservoir.

In certain areas, the value of water is escalating and the increased value should be recognized in establishing water prices. The cost of constructing, operating, and maintaining facilities rises annually, and such increases should be recognized. The amount of unsold water or storage space will probably increase, and the cost problems associated with more unused water should be recognized.

Pressures against increased appropriations seem certain; increasing pressures to reduce Federal appropriations are likely. To help meet reservoir costs under such circumstances, Federal agencies must establish and enforce repayment policies that will more fairly and promptly recover reimbursable costs.

Reclamation has, at times, justified its positions on some of the issues raised in this report on the principle that the Federal Government cannot profit from water sales. However, none of the projects with underutilized water that we analyzed returns a profit. The problem is that all costs are not recovered; some unrecovered O&M costs are simply reallocated to nonreimbursable purposes and other costs are not realistically considered in rate determinations. We are not suggesting that the Federal Government return a profit, but that it fairly and promptly recover all reimbursable costs from reservoir users.

RECOMMENDATIONS

In addition to the recommendations included in the preceding chapters of this report, Interior must be assured that its policies will be properly and consistently implemented by Reclamation regional offices. Therefore, we recommend that the Secretary of the Interior require

--nationwide distribution of its and Reclamation repayment policies, procedures, and applicable interpretations for establishing and implementing repayment requirements, and

--a periodic review of regional pricing and accounting practices to ensure that they consistently and equitably apply agency policy.

AGENCY COMMENTS

Interior reported that Reclamation had made substantial efforts to publicize and standardize its policies and procedures on repayment within the confines of the law. It said that, for the most part, regional pricing and accounting practices were generally sound but that there was room for improvement. Interior added that it would try to correct some of the discrepancies identified in this report.

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

Mr. Henry Eschwege
Director
Community and Economics Development Division
United States General Accounting Office
Washington, DC 20548

Dear Mr. Eschwege:

The following constitutes our comments on the draft report Federal Water Project Repayment Policies Do Not Assure Equitable and Expeditious Cost Recovery. For your convenience, we have referenced the appropriate pages of the draft report when making a specific comment. Our comments have not been directed at the "Digest" portion of the report, although we believe it should be revised in accordance with the comments we have made on the main body of the report.

Glossary. Under the definition of "Allocation of cost," costs are not necessarily allocated on a proportionate basis when using the Separable Costs - Remaining Benefits (SCRB) method. We suggest this be rewritten as "A distribution of the cost. . . ."

In the definition of power revenues, please insert the words "capacity and" before "energy."

The definition of "Separable Costs" should read "The costs of a water project which could be omitted from total project costs, if one purpose was assumed to be excluded while otherwise retaining essentially the same project plan and services to all other purposes."

In the definition of "Water Service Contract," please rewrite the definition to "A utility service type of contract, ..."

A definition of "Specific costs" should be added to read "The costs of individual physical features and other costs that serve only a single purpose."

[GAO NOTE: Page references in Interior comments refer to page numbers in the draft report and do not correspond to page numbers in the final report. Most of Interior's comments concern editorial or technical points for which necessary revisions were made in the final report. GAO's evaluation of Interior's more substantive comments are included at the end of each chapter or interspersed where appropriate in this appendix.]

Page 3. In the summarization of the Reclamation Project Act of 1939, it should be recognized that the provisions of subsections 9(c)(2) and 9(e) of the act, although limiting the term of a water service contract to 40 years, do not require full repayment in 40 years.

We believe you should also cite the repayment provisions of the Federal Water Project Recreation Act of July 9, 1965 (79 Stat. 213), as amended, which cites Congressional intent as to the inclusion of recreation and fish and wildlife purposes in Federal water projects and the cost sharing/repayment requirements of that act.

[GAO COMMENT: Because this report is essentially concerned with the repayment policies and practices for irrigation and municipal and industrial water supply, we do not believe that it is necessary to provide a detailed explanation of the varied repayment requirements for other project purposes.]

Page 4. There are some discrepancies in the description of the Water Supply Act of 1958, as amended. We suggest that the description be rewritten as follows:

"The Water Supply Act of 1958, as amended (72 Stat. 319). This act (1) permits the allocation of not more than 30 percent of construction costs associated with water supply storage for M&I functions to future use, (2) requires repayment of costs within 50 years of the first use of the supply and full repayment of all reimbursable costs within the life of the project, (3) requires repayment of all construction costs and interest during construction allocated to M&I use, and (4) waives interest charges on future use costs for up to 10 years."

[GAO COMMENT: The Water Supply Act of 1958, as amended (43 U.S.C. 390b), permits much more latitude than the Interior comment seems to imply. The act states, in part "* * * That not to exceed 30 per centum of the total estimated cost of any project may be allocated to anticipated future demands * * *." The act does not limit future storage to a percentage of costs allocated for M&I functions; the 30 percent provision refers to the entire estimated cost.]

Also, in the next paragraph, costs to be repaid include interest charges on construction costs allocated to municipal and industrial (M&I) functions.

APPENDIX I

[GAO COMMENT: While generally true, we noted that on Glendo Reservoir costs are allocated to M&I functions but Reclamation did not require any reimbursement for interest costs.]

Page 5. We suggest that the last sentence of the first paragraph be revised to read ". . . power and miscellaneous revenues including some M&I revenues."

Page 6. We would like to point out that when water is delivered, the recovery of operation and maintenance costs is generally the first priority. Also, there are examples where water is not delivered, but water users pay annual operation and maintenance (O&M) and construction charges anyway. Large quantities of supplemental irrigation water have been placed under contract in Water and Power's Pacific-Northwest Region, and water users pay O&M and construction charges whether or not water is actually delivered.

[GAO COMMENT: This report cites several exceptions to the principle of first priority given O&M cost recovery when water is delivered. We do not believe that such a principle is agency practice.]

Page 8. The Reclamation Project Act of 1939 specifies that repayment contracts must recover all allocable costs within 40 years (subsections 9(c)(1) and 9(d)). There is no specific repayment period mandated when water service contracts are utilized to recover project costs (subsections 9(c)(2) and 9(e)).

We believe the paragraph regarding the marketing of water versus storage space by Water and Power and the Corps is not particularly revealing. Water and Power frequently markets storage space at the cost of service associated with the storage of a given quantity of water rather than water per se. The example used that storage space tends to equate with the yield of water in acre-feet is almost always not true.

Also, we believe that congressional parameters are not as "broad" as the report implies. The Reclamation Project Act of 1939 provides guidance and authority for contracting. However, supporting documentation leading to project authorizations, the authorizing act, and agency cost allocations restrict the latitude available to market water in many cases. For example, see the Reclamation Authorizations Act of 1976 (90 Stat. 1324) which is recent, comprehensive, authorizing legislation for several major projects and the parameters contained therein.

[GAO COMMENT: We believe the parameters are very broad. Interior's comments identified several such broad parameters. For example, project cost repayment is not required in 40 years; it is only required within a project's useful life. Also, some contractors must pay O&M expenses even if they do not request water while others do not pay until water is delivered. Such significant differences result from rather broad interpretations of the laws.]

Page 13. At the outset, we would like to note that Water and Power has 210 operating projects (1978 data), most of which have water supplies that are fully subscribed. With reference to the sale of water or storage space, we do not understand the phrase "some will be sold at several times its original cost."

[GAO COMMENT: We do not believe that the term "fully subscribed" is very meaningful. Irrigators have subscribed to water from Reclamation reservoirs without requesting delivery and, therefore, not reimbursing the cost of the project. Other reservoirs, such as Ruedi Reservoir in Colorado, have guarantees of project cost repayment. Nevertheless, 12 years after reservoir completion, Reclamation has yet to receive any cost reimbursement. The phrase "some will be sold at several times its original cost" refers to several reservoirs, such as Glendo, Navajo, or Ruedi, where existing prices or offers of sale, on a per acre-foot basis, substantially exceed the original cost on a per acre-foot basis.]

Page 16. The paragraph discussing the Colorado River Storage Project (CRSP) needs clarification. The six reservoirs of the four storage units of the CRSP, i.e., Glen Canyon, Flaming Gorge, Blue Mesa, Morrow Point, Crystal, and Navajo, have a combined total capacity of about 31.9 million acre-feet (MAF), of which about 2.2 MAF is dead storage (below the lowest outlet) and another 5.2 MAF of inactive capacity (below the minimum operating level for the powerplants and at the diversion level for the Navajo Indian Irrigation Project in the case of Navajo). The remaining system active capacity of 24.5 MAF is sufficient to regulate the runoff from the Colorado River drainage area and deliver at Lees Ferry, Arizona, 75 MAF every 10 years, and one-half of any deficiency on the 1.5 MAF annual requirement for Mexico, as provided by the Colorado River Compact, while allowing the Upper Basin to develop a nominal use of 5.8 MAF annually. At present, Upper Basin use is only about 3.9 to 4 MAF per year. Current Federal and State programs and water use projections indicate that Upper Basin depletions will not reach 5.8 MAF until some time between 2030 and 2040. Based on these projections, there is currently 10 MAF of stored water, as well as storage capacity, that could be temporarily used for purposes not now programmed or contemplated. There is no storage space available on a permanent basis.

It is not clear in the report where the 1.9 MAF of CRSP storage allocated for irrigation and other consumptive (M&I) uses comes from. The table on page 17 indicates that the 1.9 MAF total has been allocated with 1.036 MAF to Lake Powell for Utah and Arizona, 500,000 acre-feet to Navajo for New Mexico and Colorado, 308,000 acre-feet to Flaming Gorge for Utah and Wyoming, and 56,000 acre-feet to Blue Mesa for Colorado. An analysis of the flow above each of these dam sites indicates that about 300,000 acre-feet of additional depletion could be supported on a firm basis by Blue Mesa Reservoir, about 1 MAF by Flaming Gorge Reservoir, about 300,000 acre-feet by Navajo Reservoir, and about 8.23 MAF by Lake Powell. Of the total 10.03 MAF, 8.23 MAF is needed to meet the Colorado River Compact delivery at Lee Ferry, leaving only 1.8 MAF available for additional use in the Upper Basin. Also, of the 433,684 acre-feet listed as available for use out of Navajo, no consideration was given to the Navajo Indian Irrigation Project uses for which Navajo Reservoir was built. The Indian project will use almost all water available when the project is in full operation.

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[GAO COMMENT: Numerous Reclamation documents refer to 1.9 million acre-feet of diversions from the Colorado River Storage Project. For example, in a letter explaining prices for water from Navajo Reservoir from the regional director, Upper Colorado Region, to the Commissioner in May 1980, the regional director wrote " With estimated water diversions of 1,900,000 acre-feet annually* * *." The actual allocation among the reservoirs that we used was included as a table in another letter from the regional director to the Commissioner, titled "Estimated Cost of Water Used for M&I Purposes, Storage Units, Colorado River Storage Project."]

Page 22. For the Willamette Basin Project reservoirs, the "storage space under contract" should read 39,866 acre-feet and the "storage space available for sale" should total 1,522,934 acre-feet. Also, as a result of recent space reallocations undertaken jointly between the Corps and Oregon State water resources officials, the firm space available for sale to irrigation interests from Lost Creek Reservoir has been reduced to 35,000 acre-feet.

Page 23. The discussion of the Water Supply Act of 1958 implies that Water and Power and the Corps of Engineers have "interpreted" the act to allow construction of future use capacity in reservoirs without obtaining a firm repayment contract for such future use capacity. This is not an "interpretation," but a clear intention of the Congress. The following is quoted from Senate Report No. 353, 87th Congress, on the 1961 amendment to the Water Supply Act:

> "Therefore, in order to permit optimum utilization of the limited number of good dam and reservoir sites remaining, the requirement for the communities or States, with respect to contractual arrangements, should be liberalized. Accordingly, the amendment, although still requiring reasonable assurances of the use of storage for future water supply, would permit the Federal agency concerned to make its own determination of future water supply needs and, on the basis of such determination may include capacity without definite contractual commitments from State or local interests. It is the intention of the committee (Committee on Public Works) that the Federal agency concerned would make appropriate allocations of reservoir capacity for present demands and determine the progressive increments which should be placed in the present demand category from the future demand reserve." (Emphasis supplied.)

Also, we would appreciate your pointing out, perhaps in a footnote, that Water and Power has been recently criticized in another General Accounting Office report for being too zealous in obtaining definite contractual commitments for future use capacity. On page 7 of your report Contracts to Provide Space In Federal Reservoirs for Future Water Supplies Should Be More Flexible (CED-80-78), it is stated:

"The Senate report on the amendment expressly stated an intention to reduce existing restrictions on non-Federal interests. The conference report also stated that the amendment was to permit the Resources Service and the Corps to make their own determinations of future needs 'without definite contractual commitments from State or local interests.'"

and

"Despite these measures to prevent firm commitment requirements, the Resources Service requires repayment contracts because, according to officials, contracts are the best way to insure repayment. Also, officials said that the authorizing legislation on some reservoirs requires repayment contracts to be entered into before project construction. Such requirements, when not specifically required in authorizing legislation, are beyond the intent of the Water Supply Act of 1958."

[GAO COMMENT: We recognize, and our report so states, that the Water Supply Act of 1958 permits reservoir construction without a repayment commitment.]

Pages 24-25. Footnote 2 references the GAO report Water Supply Should Not Be An Obstacle to Meeting Energy Development Goals (CED-80-30). We would appreciate it if you would also point out that the contracting constraints on Yellowtail Reservoir are not all self-imposed. For example, on pages 34-35 of that report, two main contracting constraints on Yellowtail were cited which we were unable to overcome; the refusal of the State of Montana to grant a diversion permit to an energy company in one case, and a court ruling which requires more extensive compliance with the requirements of the National Environmental Policy Act.

Also, with regard to Bonny Reservoir, we would like to point out that Water and Power is negotiating with the State of Colorado for complete repayment of the reimbursable costs associated with Bonny Reservoir (about $3.2 million) over a 5-year period.

Page 27. In the discussion of negotiations for a water service contract with the Atlantic Richfield Company, the implication is that Water and Power has inordinately delayed the commitment of a water supply to the company. It is also implied that Water and Power should jump at the chance to get any price for water that it can. As a matter of fact, Water and Power is actively negotiating with the Exxon Company, successor in interest to Atlantic Richfield's Colony Development Operation and Battlement Mesa Project, for 6,000 acre-feet for an oil shale plant and 1,250 acre-feet for municipal and domestic use at Battlement Mesa. The price of water is being actively negotiated. Water and Power's intent is to negotiate a high price for water and accelerate the recovery of the Federal investment in Ruedi Reservoir.

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[GAO COMMENT: Although negotiations to resolve the contracting questions have continued for more than 7 years, there is still no contract. In the meantime the taxpayer has absorbed 100 percent of the O&M costs and none of the construction cost has been repaid. On December 4, 1979, Atlantic Richfield Company wrote a letter to Interior requesting assistance in resolving the problems interferring with a contract. On February 20, 1980, the Assistant Secretary for Land and Water Resources responded, stating in part "that the Service is actively working with the district to accomplish the necessary marketing arrangements so that negotiation of yours and other contracts for water service can proceed in a timely fashion." Although that reply was written well over a year ago, there is still no contract.]

Page 29. Regarding the comment on the Willamette Basin Project, during the period in which the Corps of Engineers constructed 11 storage reservoirs on the Willamette River and its tributaries, Water and Power filed for storage rights totaling 1,640,100 acre-feet. Since these filings were based on preliminary estimates of storage capacity and subsequent adjustments were made for dead and inactive storage space, exclusive space for power production, and storage space for surcharge purposes, the total conservation storage space now filed on for irrigation purposes totals 1,592,800 acre-feet. Of that amount, water service contracts have been executed for 39,866 acre-feet. At the time the filings were initiated, it was recognized by Water and Power, the Corps, and Oregon State Water Resources Department officials that the quantities involved greatly exceed any existing or future demand for irrigation water supplies in the Willamette River Basin area. As a means of protecting stored water released for operational purposes from being filed on as natural flow and used without benefit of a contract, the State of Oregon urged Water and Power to initiate filings for the entire quantity of conservation storage space and this request was complied with.

[GAO COMMENT: If "it was recognized by Reclamation, the Corps, and Oregon State Water Resources Department officials that the quantities involved greatly exceed any existing or future demand for irrigation water supplies" as suggested, why would $45,000,000 in cost be allocated to such a purpose? Interior's statement seems to be a justification for a cost reallocation, which we understand Interior has not recommended. Since it is highly unlikely that much of the water will be used by irrigators, a cost reallocation to other purposes seems warranted.]

However, since large quantities of stored water are being released for flood control evacuation, fish and wildlife, recreation, and most importantly water quality improvement, the opportunity to utilize stored water without the benefit of water service contracts is widespread. This situation has been discussed at some length with the State of Oregon and the Corps but no progress toward a solution has yet been made. A massive policing effort to halt illegal diversions of water appears infeasible.

Page 30. We believe that the assumption that a press release is the only information as to the completion of a project and water availability is unwarranted. Planning and construction of water projects does not occur in a vacuum. Extensive public involvement efforts are made to ensure that a proposed project meets the needs of local interests. Projects are authorized by the Congress at the instigation of local interests. The problem is that original expectations as to the need for water may not be realized; it is not from a lack of information on the part of the public.

[GAO COMMENT: All public involvement that went into planning and construction of water projects will not ensure use or repayment of costs. To sell water may require that people other than the local population know the water is available for sale. This may require a marketing effort. Since the people that promoted the project have no financial repayment responsibilities, they may not have an incentive to promote water use.]

Pages 31-32. The recommendations you make probably can be carried out with some modest efforts. We have some doubts that an "advertising campaign" will have much effect on the demand for unmarketed water. However, we are willing to initiate a program, at least for a few years, to see if increased information dissemination could increase the demand for unmarketed water.

Pages 34-51 (Chapter 3). The discussion of operation and maintenance (O&M) cost allocations points out a need to review and standardize our guidelines on the allocation of such costs.

Pages 52-56 (Chapter 4). Again, the allocation of O&M costs and the assignment of some unpaid costs to a project's reimbursable function appears to be a subject worth investigating and we will do so.

Pages 57-59. Your findings on sales of water and crediting of revenues from Pathfinder Reservoir are disturbing and deserve our attention.

Pages 59-61. Allocation of annual O&M costs should be accomplished on a basis which reflects current usage. Whether this can be done on an annual basis in light of current workload and personnel restrictions is another matter. Again, we will investigate and attempt to correct inappropriate practices either through administrative or legislative measures.

Pages 66-67. We believe that more attention needs to be paid to updating water rates in short-term contracts which are renewable. We are requiring the 5-year rate review and adjustment clause in new water service contracts and, where necessary, details as to how adjustments will be made.

As a result of a recent court settlement, the Columbia Basin irrigation districts agreed to pay their share of deficits incurred by the United States for operating and maintaining reserved works of the Columbia Basin Project. This action has effectively resolved the district's O&M deficit which has accrued over the past several years. However, the possibility still exists for future disagreements over the methodology employed in computing the district's portion of the O&M incurred for the joint-use facilities. The experience with the Columbia Basin irrigation districts does illustrate the difficulties which can be encountered in administering rate adjustment provisions.

Pages 68-69. During 1980, there were 33 irrigation water service contracts executed with individuals from Waconda Reservoir for a total of about 5,500 acre-feet. The total revenue from these sales was about $34,000. A payment capacity analysis for 33 individuals would not be an inexpensive undertaking. It is doubtful that the potential revenue that may be derived from conducting such an analysis for such a small amount of water and for 33 different contractors would justify the time and expense of conducting the analysis. We would like to note that the 1981 water rate has been increased to $7.30 per acre-foot. We will comment on the alleged absorption of costs associated with water losses in our comments on the final report.

Pages 69-70. We will respond on the practice of reserving water in our comments on the final report.

Pages 71-72. The comment that part of the San Juan-Chama construction costs cannot be recovered from the M&I water users because not all of the M&I allocation (60,880 acre-feet) has been sold is not an accurate assessment of the situation. At present, all of the M&I allocation is under contract with full repayment provided for except for 4,860 acre-feet. The remaining 4,860 acre-feet of water have been allocated to several municipalities in the area and, as soon as contracts can be executed with those entities, complete repayment of the M&I allocation will be provided for. As each contract is executed, that entity assumes the full repayment obligation, including interest, associated with each acre-foot of water contracted for.

We will address the pricing practice on Navajo Reservoir water in our comments on the final report.

Pages 72-74. On the basis of a few examples, it is concluded that "The Resources Service does not use pricing practices that will assure equitable recovery of water project costs." There are some areas which deserve attention. In most cases, Water and Power's pricing practices conform with Congressional intent and recover the taxpayers' investment in an equitable manner. However, there may be some inconsistencies in pricing practices which need to be evaluated.

[GAO COMMENT: Some of the examples of inappropriate pricing practices are quite widespread. For example, we found little evidence that Reclamation evaluates short-term contract prices very often to determine if prices are appropriate. However, even if the pricing practices are generally appropriate, those that do not meet such a standard should be corrected immediately.]

Regarding your recommendation for reevaluation of prices on an annual basis, the number of contracts and time and personnel constraints may not allow annual adjustments. Payment capacity studies, comprehensive cost reallocations, or other complex justifications are involved. Just during 1980, there were about 130 short-term contracts issued.

[GAO COMMENT: Our review did not demonstrate that additional studies were necessary to update prices. Most of the information needed to adjust prices was readily available in the offices that wrote the water sales contracts.]

We will evaluate the need for price adjustment language in water service contracts on a case-by-case basis.

Regarding "water reservations," such usually occur under option contracts. In the GAO report Contracts to Provide Space In Federal Reservoirs For Future Water Supplies Should Be More Flexible, you praised Water and Power's use of option contracts and the use of standby/readiness-to-serve charges. We call your attention to pages 7 and 8 of that report.

[GAO COMMENT: We recognize that option contracts have substantial benefits. That is not the issue. Rather, if water reservations have value (and we think they do), reasonable payments should be made by contractors that reserve the water.]

Page 75. It is doubtful that the recommendations made would reduce Federal appropriations for operating and maintaining projects. This anticipates a revolving fund approach which very few Water and Power projects have. On most projects, revenues from water users (other than advances for O&M expenses) are deposited in the Reclamation Fund for subsequent appropriation by the Congress.

[GAO COMMENT: If more money is available in the Reclamation Fund to finance O&M expenses, less will be required from the General Fund. If revenues in the Reclamation Fund were sufficient to fund all O&M expenses, General Fund appropriations would not be needed.]

Pages 76-77. The recommendations you have made have some merit. The problems we have agreed to look into will be addressed. It is our objective to strengthen Water and Power's repayment policies to protect the taxpayer within the parameters established by law.

You are correct that many energy firms have paid large sums of money to reserve water for future use under option contracts. It is likely they will do so again and we will charge them accordingly. We appreciate the praise afforded our innovative option marketing program in your previous report.

As most O&M funds are appropriated by the Congress, your suggestion as to crediting of revenues against O&M accounts would not immediately lead to taxpayer relief. We believe you really mean that revenues should be applied to the recovery of O&M costs first.

Page 78. It is our understanding that your auditors met with Water and Power's Program Coordination and Finance staff concerning the allocation of multipurpose expenses as prescribed in Water and Power directives system. The conclusions of that meeting were that the instructions could be contradictory in some circumstances and provide considerable flexibility in others. We suggest that the last sentence of the first paragraph on this page be rewritten to read, "For example, the Resources Service's instructions on the distribution of multipurpose expenses could be contradictory in certain circumstances and can be interpreted in varying ways." Water and Power will revise the appropriate instruction to eliminate any confusion in its interpretation.

Prices charged for water or storage at Glendo and Navajo Reservoirs will accelerate the repayment of reimbursable costs associated with the M&I function and perhaps assist in the repayment of reimbursable irrigation costs. When such revenues are no longer required for repayment of reimbursable costs, then, absent additional legislation, a new pricing policy will be necessary.

We recognize that the value of water is escalating in many areas. For example, we are negotiating with the Exxon Company for water from Ruedi Reservoir in a price range that tops out at $155 per acre-foot. Water and Power is pressing for higher water charges in California's Central Valley Project, the Columbia Basin Project (see page 67 of your report), the Glendo Unit of the Pick-Sloan Missouri Basin Program, and in other projects.

Page 80. Regarding your last recommendations, Water and Power has made substantial efforts to make known and standardize its policies and procedures on repayment within the confines of the law. For example, Water and Power will soon issue Series 190 of its Water and Power Instructions which details policy on contracting. Also, policy statements on contracting fill a large volume which is continually updated and is available at all regional offices.

For the most part, we believe that regional pricing and accounting practices are generally sound. However, there is always room for improvement and we will undertake efforts to correct some of the discrepancies identified in your report.

Sincerely,

Deputy Assistant Secretary for
Land and Water Resources

APPENDIX II

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, D.C. 20310

Mr. Henry Eschwege
Director, Community and
Economic Development Division
U.S. General Accounting Office
Washington, D.C. 20548

5 MAY 1981

Dear Mr. Eschwege:

This is in reply to your letter of February 27, 1981, which enclosed the draft report on "Federal Water Project Repayment Policies Do Not Assure Equitable and Expeditious Cost Recovery" (GAO Code 085550)(OSD Case #5655).

It is noted that, in many places policies and practices are attributed to both the Corps of Engineers and the Water and Power Resources Services, whereas some actually apply to only one of the agencies. We recommend the final report be presented in two sections, one for each agency. Background discussion and comments addressed to each of the Secretaries will then be clear to the Congress and to the public, and each agency will be better able to focus on those areas actually within its jurisdiction. [See GAO note 1 below.]

We are already reviewing the entire subject of water supply cost recovery/repayment, including cost recovery practices for municipal and industrial water supply and storage and will consider recommendations contained in your report.

I have enclosed detailed comments which were discussed at the March 24, 1981 meeting with members of your staff. It should be noted that neither the Assistant Secretary of the Army (Civil Works)-Designee or myself were involved in the March 24th meeting, nor have we had an opportunity to review your draft report. Accordingly, these comments do not necessarily reflect changes which may be made as a result of the review noted above. [See GAO note 2 below.]

Sincerely,

Robert K. Dawson
Deputy Assistant Secretary of the Army
(Civil Works)

Enclosure

[GAO NOTE 1: We believe that the report presentation adequately discriminates between those matters applicable to the Bureau of Reclamation and those concerning the Corps of Engineers.]

[GAO NOTE 2: These comments were provided by Corps of Engineers headquarters staff.]

Additional Comments on GAO Draft Report
"Federal Water Project Repayment Policies Do
Not Assure Equitable and Expeditious Cost
Recovery" (OSD Case #5655)

1. Reference Glossary section:

a. Allocation of cost. Change "miscellaneous" to "other." In Corps projects the "other" is often more important than what is given. For example, municipal and industrial water supply cannot be a project feature by itself, it must be added to a flood control, navigation or hydropower project.

b. Joint costs. This is actually the definition of joint-use costs.

c. Projects. Per meeting on March 24, 1981, this definition was eliminated.

d. Purpose. Change "industrical" (sic) to "industrial water supply."

e. Reimbursable costs. For Corps projects, the money is returned to the U.S. Treasury. Suggest this be so indicated in the definition.

f. Repayment contract. Per meeting on March 24, 1981, this definition was eliminated.

g. Separable cost. This is actually the definition of specific costs.

h. Underutilized water or storage space. Use the definition given at the bottom of page 1, which is correct.

i. At least five of the items listed in the glossary do not pertain to the Corps which are:

(1) Ability to pay,

(2) Option contract,

(3) Reclamation fund,

(4) Water deliveries, and

(5) Water Services Contracts

and should be appropriately footnoted to so indicate.

j. Replace Flood Control Space & definition with, Flood Control Storage - Empty storage space reserved for catchment of flood flows for release at non-damaging rates.

[GAO NOTE: Page references in the Corps comments refer to page numbers in the draft report and do not correspond to page numbers in the final report. Most of the Corps comments concern editorial or technical points for which necessary revisions were made in the final report. GAO's evaluation of more substantive comments are included at the end of each chapter if they relate to the report's message, or are interspersed within the Corps comments if they clarify issues.]

2. Reference Chapter 1

a. Page 1. The first paragraph poses two good questions; unfortunately, the answers are not readily discernible. The first paragraph includes the statement, "If congressionally authorized uses of Federal water supplies do not develop,..." This does not indicate what standard was used to make this type decison. In fact, the report does not indicate that actual use was compared to expected use when the project was authorized.

b. Page 2, para 2. Object to the word "expensive." While Corps projects cost money, they are cost effective by returning more to the Nation in benefits than they take in costs. Revenues should be cited.

c. Page 3, lines 7-10. These Federal expeditures are in accordance with Federal law and should be added to this sentence.

d. Page 6, middle of page. GAO should state how the cost allocation was selected; i.e., by the Inter-Agency Committee on Water Resources which prepared the "Proposed Practices for Economic Analysis of River Basin Projects" in 1958. This publication, the so called "Green Book" took the place of the 31 December 1952, BOB Circular No. A-47.

e. Page 8. Would be interested in knowing how GAO established the yearly water needs of a family of 5.

f. Page 9, line 6. Change "administrative decisions" to "the cost allocation process."

[GAO COMMENT: Generally, administrative decisions determine the method used to allocate costs and how those methods might be applied; therefore, those decisions are important in determining repayment obligations. For example, it was an administrative decision by the Corps Tulsa office not to reallocate unrecovered O&M expenses to nonreimbursable purposes, and it was an administrative decision by the Corps Seattle office to recover from the City of Aberdeen the unrecovered O&M costs for future water supplies from Wynoochee Reservoir. In both cases, Corps officials said these local actions were not in accordance with Corps policies.]

g. Page 9, lines 7-12. This is not an accurate statement of Corps' policy.

h. Page 9, penultimate line. The word "equitable" is dependent upon what point of view is being examined.

3. Reference Chapter 2.

a. Page 13, para 2, line 1. Insert "in accordance with Federal laws" after "agencies."

b. Page 19, para 1.

(1) In the first line, after "Corps policy" add a comma and the following" "consistent" with Federal law."

(2) All of the 3 million acre-feet of unsold storage space may not be because of weak demand. Each project would have to be analyzed against the original projects authorization. It could be that benefits had been discounted to allow for the phasing in of demand. Irrigation storage should be separated from M&I storage.

[GAO COMMENT: As indicated in this report, we did not review the planning for the projects covered by our analysis. We were concerned with the repayment implications when reservoirs have underutilized water or water storage space and how reimbursable costs could be more fairly and promptly repaid under the circumstances.]

c. Page 19, para 2. The statement that only 104,000 acre-feet of water were actually delivered in fiscal year 1979 is meaningless. GAO is comparing a flow against a volume. Corps contacts are on storage space and repayment is independent of actual use from the storage under contract.

d. Page 19, para 3. The report should be expanded to indicate the amount of the additional storage space that is under contract for immediate and future use as well as the status of the reservoirs that are authorized for future construction.

[GAO COMMENT: Since the amount of storage space under contract does not assure repayment nor that O&M costs will be recovered, contracted storage space is not very meaningful. Since authorized but unconstructed projects are not included in our analysis of available water, we do not believe an explanation of their status is necessary.]

e. Pages 21 and 22.

(1) Our records do not substantiate the numbers given in the table and per the March 24, 1981, meeting we are herewith furnishing an updated table. For the 12 projects listed in the table, the average age is 10.7 years and 37% of the storage space is under contract (41% of which is for present use). This we believe is a good record.

(2) There are many number games that can be played with the Tulsa District's M&I water supply program. For example, if the 2 projects were deleted from the table which do not have storage available for sale plus the Oologah project where sale of storage is delayed because of a lawsuit, the remaining 9 projects have an average age of 7.9 years with 28% of the space under contract (37% of which is present use). This we also believe is a good record. There are about 40 projects in the Tulsa District which have storage available for M&I use, to select only 12 of these projects as examples of projects with space available for sale" may or may not be a representative sample.

[GAO COMMENT: We limited our review to projects with underutilized reservoirs. We did not evaluate why they were underutilized, and we did not evaluate whether or not the rate of utilization was acceptable.]

f. Page 23. The latter half of this page contains a statement that "Agency interpretation of the Water Supply Act of 1958 encouraged project construction with underutilized reservoir storage." This is a gross misstatement. As indicated in the 7th line from the bottom of the page, the act permits 30 percent of total estimated costs to be allocated to future M&I water supply. A study of law discloses that the 58 Act was amended in 1961 to make it even easier to include storage for future use.

g. Page 24, line 2. Change "indefinitely delayed" to "delayed until use is initiated."

h. Page 24, line 10. After "addition," add "in accordance with Federal law."

i. Page 24, line 15. The paragraph beginning on this line is true only for contracts for future water supply. All immediate use contracts have a date when payments start. On contracts for future storage, after the 10-year interest free period expires, interest begins to accumulate and is compounded annually if not paid. At end of line add "designated for future use."

j. Page 27, para 2. In line 2, change "some" to "all." In most every project the Corps is recovering "some" of the costs.

k. Page 28, lines 2-5. The Corps does not permit this, contracts paid out over time require equal annual installments.

l. Page 29, line 7. The report mentions the Corps' Willamette River Basin Project. Since the report is dealing with irrigation, responsibility for repayment is with DOI.

[GAO COMMENT: Since the Corps built the project and operates and maintains it, the Corps should be concerned with repayment responsibilities. Each year it must request funding to pay for O&M costs. Although Reclamation has water marketing responsibilities for project irrigation, it is still a Corps project.]

m. Page 32. The Conclusion paragraph starts as though Corps programs are not involved, when in fact they are. Suggest the second sentence be changed to the following: "Many state and local interests as well as private companies seem willing to purchase water from, or storage space in, Federal facilities."

n. About 1/3 of the 20 page chapter is devoted entirely to Resources Service activities. It might be advantageous to separate the paragraph into sections which correspond to the policies and programs of the two agencies. Justification for this is also based on the fact that of the 15 million acre-feet of storage space this chapter is concerned with, only 3 million acre-feet (20%) is in Corps projects. In addition, of the 20%, over half is irrigation storage which is also the responsibility of the Resources Service.

o. Recommendations. In general do not concur in the recommendations given on page 33. Exception is taken for the following reasons:

(1) The Corps, by and large, does not promote its programs. The Corps is available for help when so desired by state and local officials. To actively push the program might cause critics to complain that the Corps was trying to commit all water storage so more projects could be built. This could be contrary to Corps policy with respect to water conservation.

(2) State and local water officials are well aware of any Corps reservoir project in their area. If they need water, the Corps is always one of the first agencies they come to for help.

(3) In Western states, the states hold the water rights and for the Corps to actively promote the sale of storage to someone without a water right would be improper. In many, if not all Corps (western) projects, the water rights are all committed even though the storage space may not all be under contract.

(4) There may be some rationale for reporting to Congress during the annual budget message the status of the Corps municipal and industrial water supply program. This could include not just the storage not under contract but also that storage which is under contract and the amount of money which had been collected in the past year from the program.

APPENDIX II

Examples of Tulsa District
Operating Corps Reservoirs
with Space Available for Sale
(In Acre-Feet)

Reservoir	State	Total M&I Storage Space	M&I Storage Space Under Contract		M&I Space Available for Sale	Year Reservoir Completed
			Present 1/	Future 2/		
Oologah	OK	342,600	6,200	38,000	298,400 3/	1972
Kaw	OK	171,200	9,150	81,650	80,400	1976
Broken Bow	OK	152,500	0	0	152,500	1968
Millwood	AR	150,000	28,300	121,700	0	1966
Waurika	OK	154,000	41,800	0	112,200	1977
Optima	OK	76,200	0	0	76,200	1978
Eufaula	OK	56,000	2,691	1,480	51,892	1964
Hugo	OK	47,600	8,230	36,660	2,710	1974
Gillham	AR	20,600	0	0	20,600 4/	1975
Pine Creek	OK	49,400	17,640	11,160	20,600	1969
DeQueen	AR	17,900	0	0	17,900	1977
Canton	OK	90,000 5/	90,000	0	0	1948
TOTAL		1,328,000	204,011	290,650	833,339	

Footnotes:

1/ Under contract, payment initiated.

2/ Under contract, payment not yet initiated.

3/ Contracts for this space are being delayed pending a ruling in a League of Women Voters lawsuit.

4. ~~This contract is currently at the Office of the Secretary of the Army awaiting signature.~~ The entire 20,600 A-F is ~~being placed~~ under contract for future use.

5/ Of this total space, 52,000 A-F which is assigned to irrigation which is temporarily under contract for M&I water supply.

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4. Reference Chapter 3

a. Page 43, last sentence. We cannot agree with the statement without further information.

b. Page 44, last paragraph (continuing onto page 45).

(1) The Lucky Peak project was authorized in 1964, placed in operation in 1955, and has a usable storage capacity of 280,000 acre feet. It was built primarily for flood control. Operation of the project permits more effective use of storage space at Anderson Ranch and Arrowrock, Water and Power Resources Services (WPRS) irrigation projects upstream on the Boise River. Lucky Peak provides irrigation storage space during low runoff years when storage in Anderson Ranch and Arrowrock would not be sufficient. A coordinated operation plan is followed by the Corps, WPRS, and the Bosie Project Board of Control (BPBC) so that the three projects can be operated effectively. This operating agreement was signed on 20 November 1953, and is summarized on the attachment. Under this coordinated operation plan, a total storage space of 983,000 acre-feet in the three projects is available for flood control without jeopardizing irrigation requirements.

(2) In response to resolutions adopted by the Committee on Public Works of the United States Senate on 27 July 1962 and 5 January 1959 the Corps of Engineers has completed a study to modify the Lucky Peak project to add hydro-electric power. This favorable report was submitted to the Secretary of the Army for transmission to Congress on 24 March 1980. Attached is a portion of a paper prepared concerning this Lucky Peak project modification study. The portion inclosed pertains to storage allocations and cost sharing.

(3) We believe that under the current authorization, any costs assigned to irrigation should be derived by agreements between WPRS and the located interests in accordance with original agreements for water from Arrowrock and Anderson Ranch. As discussed in the inclosure, should the power feature be added to the Lucky Peak project, the entire cost sharing issue, should be reexamined. During construction of Lucky Peak, a project modification was made to the Arrowrock project. This modification permitted a lower overall project cost while increasing the benefits both to flood control and irrigation. The 1946 Flood Control Act which authorized the Lucky Peak project also authorized the modification of Arrowrock. While there is replacement storage in Lucky Peak which is used for irrigation water, the Corps is not aware of any contracts for irrigation water from the project. The Resources Service, in their annual financial statement, lists funds received from irrigation from the Lucky Peak project. The Corps does not know the basis for this. The Corps also has no knowledge of the presence or absence of irrigation contracts in the Arrowrock project. The Resources Service must be contacted to develop this information.

c. Page 45, last 3 lines. The example that GAO is making was acknowledged by both the Resources Service and the Corps to be an error which was the result of a misunderstanding and has been corrected.

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J. Recommendations. Of the 6 recommendations in this chapter, only 3 are addressed to the Corps. Of those 3, the recommendations made are consistent with current Corps policy, with one exception. The exception is that the Congress has given authority to the Corps to add purposes under certain conditions. If we exceed these authorities, we go to Congress for authorization.

APPENDIX II

Operation Plan for Lucky Peak,
Arrowrock, & Anderson Ranch
Summary of Agreement

(1) Storage space up to the total active space of the three reservoirs, 983,000 acre-feet (1,084,000 acre-feet including dead and exclusive power storage), will be used primarily in the interest of flood control and irrigation as governed by forecasts of runoff.

(2) Forecasts of runoff volume will be made periodically from 1 January throughout the flood season, and upon these forecasts and storage allocation parameter curves, reservoir releases will be scheduled to evacuate and refill reservoir space without exceeding the downstream bankfull capacity.

(3) Diversions to New York Canal at Diversion Dam will be considered to average 1,365 cfs in March and 2,820 cfs from 1 April through 31 July.

(4) In operation of the reservoirs for flood control, reservoirs will be evacuated in order proceeding upstream, and filled in reverse order. At least 60 percent of the flood control space will be reserved in Lucky Peak and Arrowrock reservoirs. During the period November through February, at least 40,000 acre-feet of space will be reserved in Lucky Peak Reservoir for control of rain floods, except that space up to 16,000 acre-feet in Anderson Ranch Reservoir may be considered as part of the 40,000 acre-feet.

(5) For unusual flood volumes that cannot be regulated to bankfull by use of the maximum reservoir capacity of 983,000 acre-feet, releases exceeding bankfull will be made to reserve some storage for reduction of peak rates of flow.

(6) For recreation, Lucky Peak Reservoir will be kept filled as much of the time as practical from the end of the flood season to the 15th of September each year. Water stored in Arrowrock Reservoir will be released for this purpose.

(7) If justified, the plan of operation may be modified by agreement between the Secretary of the Army and Secretary of the Interior after consultation with the Reclamation Engineer of Idaho and Project Manager, Boise Project Board of Control (Boise River Water Users Association). Any modified agreement will be in the interest of greater water resource conservation without sacrifice of flood protection as prescribed by law.

APPENDIX II

Lucky Peak Dam and Lake, Idaho
Modification Study

a. Storage Allocations -

(1) The feasibility report for the existing Lucky Peak project was not printed and no copies are available in OCE or the field. The 1946 Annual Chief's Report, written after project authorization in the 1944 FCA, contains the following:

"The plan contemplates the joint use of the storage in Lucky Peak, Arrowrock, and Anderson Ranch Reservoirs. Operation of the dam as a flood control facility will be by the War Department under the direction of the Secretary of War with the understanding that complete or partial joint use of the storage in the three reservoirs may be undertaken at such time as may be agreed upon by the Secretary of War, Secretary of the Interior, and local interests concerned with flood control and the use of irrigation water".

Lucky Peak Dam and Lake has been operated as part of the system with the two upstream BuRec projects, Arrowrock and Anderson Ranch. Together, these projects provide storage for flood control, irrigation, and fish and wildlife under a coordinated plan between the Corps, the BuRec, and the BPBC. Lucky Peak was the last dam constructed of the three and increases the effectiveness of Arrowrock and Anderson Ranch to store water for irrigation. This operating plan is fully consistent with project authorization. Total storage in Lucky Peak is 307,000 acre-feet, about one-third of the total storage in the three dam system. Of the storage in Lucky Peak, 111,960 acre-feet are used for irrigation, 50,000 acre-feet for fish and game uses, and 28,000 acre-feet to maintain a minimum pool. All these uses are provided for after the flood control season. The remaining 116,250 acre-feet of storage is uncontracted for but used for irrigation and flood control when needed.

(2) Under the plan recommended by BERH no change in system operation is proposed with the addition of power to Lucky Peak. Most of the annual energy will be generated as flows are released from Lucky Peak for irrigation. Fortunately, this coincides with the peak power demand in the area. The storage provided in Arrowrock and Anderson Ranch reservoirs significantly enhances the power production capabilities of Lucky Peak. The State of Idaho has considered plans to divert Boise River water for irrigation. These plans could have a significant effect on power production at Lucky Peak. It will be necessary for the State to define its plans to establish the significance, if any, such diversions will have on Lucky Peak power production.

(3) In 1926, the BPBC signed a contract with BuRec for the use of stored water Arrowrock Dam for irrigations purposes. It is our understanding that the contract did not give the Board of Control a superior and prior power right from the project, because power at Arrowrock did not appear to be comtemplated by the contract. However, an official interpretation of the contract as to the intention or

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commitment of the parties, specifically regarding power, will have to be made by the Department of the Interior. The contract does not appear to be negated by the construction of the Lucky Peak Dam. Modifications were made to Arrowrock Dam at the time Lucky Peak was constructed to assure that Arrowrock would operate satisfactorily for its intended purpose. Therefore, no loss was incurred to irrigation, and no compensation to the Board of Control was necessary.

b. Cost Sharing -

(1) Because the dam already exists, the power feature can be added for only the incremental cost. Accordingly, the report has justified the power feature on an incremental basis. BERH, in its report, stated that it is proper that costs chargeable also include assignment of an appropriate share of the costs of the existing dam and lake and any other appropriate system cost. BERH recommended that the Chief of Engineers be authorized to determine, in cooperation with the Department of Energy, the appropriate accounting for power costs.

(2) Because of the way the existing project was authorized and because of its role in the three dam system, determining an appropriate and equitable share of project costs among all purposes will be complex. Currently there exists no policy on how to reallocate the costs of the existing project when power is added as a project purpose. Lack of such policy led to contradictory guidance from OCE during the intensive management checkpoint 2 conference and during BERH review.

(3) Power production is only possible because of the head and storage provided by the existing Lucky Peak reservoir. Power production is significantly enhanced by the storage provided at Arrowrock and Anderson Ranch reservoirs. Therefore, it appears appropriate costs chargeable to Lucky Peak power should, beyond the separable power costs, include an appropriate share of the costs of all three reservoirs. Conversely, the existing Lucky Peak reservoir significantly enhances the capability of Arrowrock and Anderson Ranch to store water for irrigation. Therefore, it may be appropriate to assign some of the costs of the existing Lucky Peak reservoir to the two upstream projects. No costs of the Arrowrock or Anderson Ranch reservoirs are allocated to flood control although these reservoirs provide significant flood control benefits. A three dam system cost reallocation should take into account these benefits. Any reallocation would require a cooperative effort between the Corps and Department of Interior. The existing uncontracted and unallocated storage which is currently used for flood control and irrigation when needed would have to be defined prior to allocating costs.

5. Reference Chapter 4.

a. Page 55, 1st paragraph. It is Corps policy that until payments are initiated, O&M costs allocated to future water supply are assigned to nonreimbursable functions.

b. Page 55, Examples of Reimbursable M&I Expenses. We have been unable to verify the numbers given in the table, however, the numbers should be divided by 5 and cited as average annual costs for the 5-year period.

c. Page 56, 1st paragraph. This paragraph is in error. The so called "old" O&M costs are actually those O&M costs which were assigned to present use storage but not recovered. The Wynoochee Lake contract amendment clearly states (with respect to operation and maintenance) that "The City will be required to pay the percentage which is applicable for the increments of storage space being used, as determined in the manner set out in exhibit A of this contract, of the annual experienced joint-use operation and maintenance costs of the Project." Exhibit A shows that the immediate (block 1 storage) is 59.21 percent of the total water supply O&M and that the deferred (blocks 2 and 3 storage) "Operation, maintenance and replacement costs assumed by Federal Government until such time as use of Block Nos. 2 and 3 storage materializes."

d. Page 56, paragraph 2.

(1) In line 4, it should be noted that the Act states "in part."

(2) Note the words in line 8 of the quoted material which states that "costs allocated to present demand." Present demand is always obligated to pay the O&M costs. Note that costs assigned to future O&M are not being recovered.

[GAO COMMENT: Seattle Corps officials reiterated their position on the ultimate recovery of currently unrecovered O&M costs. The officials said that they are accumulating costs so that when the remaining water from the Wynoochee Reservoir is delivered, those costs will be included in their price determinations.]

e. Recommendations. Of the 4 recommendations, only the first is addressed to the Corps per discussion with GAO representatives on 24 March 1981.

(1) If we understand GAO's statement, what they are concerned with is the separable municipal and industrial water supply O&M costs, which are identified with future use storage. If so, this is a great difference from the costs shown in the table on page 55 which are (we believe) unrecovered joint-use costs. In all probability, separable future use water O&M costs would be quite small.

(2) If the above assumption is wrong and GAO is actually concerned with the joint-use water supply O&M costs which are assigned to future use, do not concur. Congress has clearly stated that costs of future storage need not be paid until use is initiated. While the Water Supply Act of 1958 is silent with respect to future O&M, Corps interpretation of the law is that this provision also applies to operation and maintenance costs. First use of a project for future demand water storage occurs at such time as space in the reservoir is actually committed to and used for such water storage. The Corps has recognized that until there is a commitment on the part of both local interests and the Government the storage space may be utilized for other purposes. Corps regulations emphasize that storage provided for future use water supply should be used to the maximum extent practical for other beneficial purpose in the interim until use in initiated for that supply. Such interim use should be reflected in the benefits and allocations of cost.

[GAO COMMENT: As stated, the Congress said the costs do not have to be paid until the water storage is first used to deliver water. However, the Congress did not state that the O&M costs necessary to assure continued water storage space should not be recovered but allowed delayed payment. Since construction costs associated with reimbursable purposes are permanent project liabilities, why not treat unrecovered O&M costs in a similar way. To reassign these costs to nonreimbursable purposes--without any demonstrated change in such benefits--simply precludes repayment.]

(3) 3rd Recommendation. Concur, this is current Corps policy.

6. Reference Chapter 5. Recommendations do not apply to the Secretary of the Army (Corps).

7. Reference Chapter 6. Recommendations do not apply to the Secretary of the Army (Corps).

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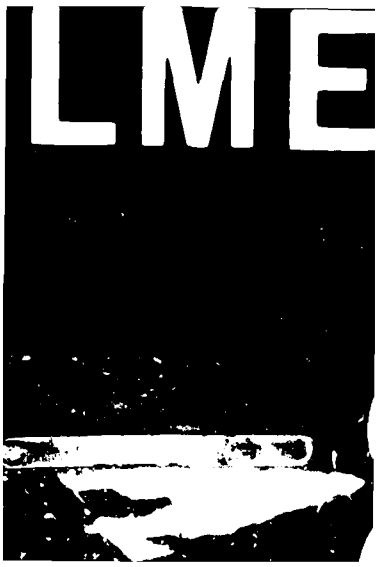
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